



UNIVERSITY  
OF TASMANIA

***School of Information Systems***

**Faculty of Business**

**BSA102  
Information Modelling & Infrastructures**

**Semester 2, 2006**

**Unit Outline**

**Chris Keen  
Robert Cox**

# Contact details

## Unit coordinator/lecturer

**Unit coordinator/lecturer:** Chris Keen  
**Campus:** Hobart  
**e-mail:** [Chris.Keen@utas.edu.au](mailto:Chris.Keen@utas.edu.au)  
**Phone:** 6226 6204  
**Fax:** 6226 6211  
**Room number**  
**Consultation hours:** Hobart 1100-1250 Wednesdays  
Launceston 1500-1550 Mondays  
Cradle Coast To be advised

## Other teaching staff

**Lecturer** Robert Cox  
**Campus:** Launceston  
**e-mail:** [Robert.Cox@utas.edu.au](mailto:Robert.Cox@utas.edu.au)  
**Phone:** 0429 406 640  
**Fax:** 6226 6211  
**Room number** D104  
**Consultation hours:** Launceston 1500-1550 Mondays

**Lecturer/Tutor**  
**Campus:**  
**e-mail:**  
**Phone:**  
**Fax:**  
**Room number**  
**Consultation hours:**

**Tutor** Aaron Olding  
**Campus:** Hobart  
**e-mail:** [Aaron.Olding@utas.edu.au](mailto:Aaron.Olding@utas.edu.au)  
**Phone:** 6226 6200  
**Fax:** 6226 6211  
**Room number**  
**Consultation hours:**

# Contents

|   |    |
|---|----|
| Unit Summary .....                        | 2  |
| Unit description .....                    | 4  |
| Learning outcomes .....                   | 4  |
| Generic graduate attributes .....         | 6  |
| Prior knowledge &/or skills .....         | 7  |
| Learning resources required.....          | 7  |
| Details of teaching arrangements.....     | 8  |
| Unit schedule .....                       | 9  |
| Learning expectations and strategies..... | 9  |
| Assessment .....                          | 11 |
| How your final result is determined ..... | 17 |
| Submission of assignments.....            | 17 |
| Requests for extensions .....             | 18 |
| Penalties .....                           | 18 |
| Review of results and appeals.....        | 18 |
| Academic referencing .....                | 19 |
| Plagiarism .....                          | 19 |
| Further information and assistance .....  | 20 |

## Unit Summary

|                               |  |               |                                      |                   |            |                     |                  |
|-------------------------------|--|---------------|--------------------------------------|-------------------|------------|---------------------|------------------|
| <b>Unit Code</b>              | BSA102   |               |                                      |                   |            |                     |                  |
| <b>Unit Title</b>             | Information Modelling & Infrastructures  |               |                                      |                   |            |                     |                  |
| <b>Unit Description</b>       | <p>This unit is a first year unit in the Bachelor of Information Systems.</p> <p>Information Modelling &amp; Infrastructures introduces students to a practical and systematic approach to designing relational databases, from the conceptual information model through to the relational database model and finally through to implementation using a relational database management system.</p> |               |                                      |                   |            |                     |                  |
| <b>Teaching Staff</b>         | <table><tr><td>Hobart campus</td><td>Professor Chris Keen<br/>Aaron Olding</td></tr><tr><td>Launceston campus</td><td>Robert Cox</td></tr><tr><td>Cradle Coast campus</td><td>Steven Cambridge</td></tr></table>   | Hobart campus | Professor Chris Keen<br>Aaron Olding | Launceston campus | Robert Cox | Cradle Coast campus | Steven Cambridge |
| Hobart campus                 | Professor Chris Keen<br>Aaron Olding   |               |                                      |                   |            |                     |                  |
| Launceston campus             | Robert Cox   |               |                                      |                   |            |                     |                  |
| Cradle Coast campus           | Steven Cambridge   |               |                                      |                   |            |                     |                  |
| <b>Campus &amp; Mode</b>      | Hobart, Launceston, Cradle Coast, Jakarta – flexible, internal   |               |                                      |                   |            |                     |                  |
| <b>Unit Weight</b>            | 12.5%  |               |                                      |                   |            |                     |                  |
| <b>Teaching Pattern</b>       | Lectures – 2 hours per week (weeks 14 – 26)<br>Tutorials – 1 hour per week (weeks 15 - 26)   |               |                                      |                   |            |                     |                  |
| <b>Pre and Corequisites</b>   | Business Information Systems (BSA101)  |               |                                      |                   |            |                     |                  |
| <b>Mutual Exclusions</b>      | None   |               |                                      |                   |            |                     |                  |
| <b>Assessment</b>             | Three assignments, plus end of semester examination  |               |                                      |                   |            |                     |                  |
| <b>Required Texts, etc</b>    | <p><i>BSA102 Course Guide</i> (2006), School of Information Systems, University of Tasmania.</p> <p>Pratt, PJ &amp; Last, MZ (2006) <i>A Guide to MySQL</i>, Thomson Course Technology.</p>  |               |                                      |                   |            |                     |                  |
| <b>Reference Material</b>     | <p>Hoffer, JA, Prescott, MB, &amp; McFadden, FR (2004) <i>Modern Database Management</i>, 7<sup>th</sup> Ed, Prentice Hall.</p> <p>Rob, P &amp; Coronel, C (2004) <i>Database Systems: Design, Implementation, and Management</i>, 6<sup>th</sup> Ed, Thomson Learning.</p> <p>Vaswani, V (2004) <i>MySQL: The Complete Reference</i>, McGraw-Hill.</p>  |               |                                      |                   |            |                     |                  |
| <b>Technical Requirements</b> | None   |               |                                      |                   |            |                     |                  |
| <b>Software Requirements</b>  | Students are expected to have access to the Internet, and have installed the University's VPN for access to the University intranet from external sites, plus use of Microsoft Word 2003 and Microsoft Visio 2003, or later versions, for preparing assignments.   |               |                                      |                   |            |                     |                  |

**Access to Information Technology**

Hobart: IS PC Labs, Information Systems Building  
Students will have access to the computer laboratories during the academic year. Proximity cards have to be used to gain access to laboratories.

Launceston: D130, First Floor, Building D  
D130 is the main School of Information Systems computer Lab. Students may also use D004 which has 24 hour access via a proximity card system.

Cradle Coast: PC Lab, room 1-25

Notes: Login codes are printed on the student's Statement of Fees and Enrolment. Use of these login codes is based on the assumption that each student has read and agreed to abide by the Ethics Agreement form.

**Courses**

BCom, BIS, BCom-BIS, BA-BCom, BBioTech, BCom-BComp, BSc, BFA-BIS, GradDipIS, BCom-BSc, BIS-BMus, BIS-BTeach, BSocSci (Police Studies), GradDiplInfoMgt, GradCertIS

**School Web Site**

[www.utas.edu.au/infosys/](http://www.utas.edu.au/infosys/)

## Unit description

This unit seeks to develop knowledge and skills in:

- a) The development of conceptual information models, using the entity-relationship design methodology;
- b) The translation of such conceptual information models into relational database models;
- c) The implementation of a relational model using a relational database management system;
- d) The basic range of features offered by a relational database management system;
- e) The basic principles of information gathering and professional report and documentation requirements.

## Learning outcomes

On completion of this unit, a student should:

- a) Have a knowledge of the principles of conceptual information modelling techniques;

**Assessment Criteria:**

- HD level: Shows evidence of a deep understanding of the conceptual information modelling and relevant methodology/ies for the development of such information models.
- DN level: Shows evidence of being able to distinguish relevant areas of application of information modelling as a static modelling scheme, and be able to relate the methodology for development of conceptual information models to other modelling techniques, such as data flow diagrams.
- CR level: Demonstrates an understanding of what a conceptual information model is, and clearly demonstrate an understanding of how and why information analysts employ a specific methodology for the development of conceptual information models.
- PP level: Demonstrates an understanding of what a conceptual information model is, and be able to explain how and why an information analyst employs a specific methodology for the development of conceptual information models.
- NN level: Fails to demonstrate an understanding of what a conceptual information model is, and/or fails to explain how and why an information analyst employs a specific methodology for the development of conceptual information models.

- b) Be able to undertake the analysis and design of conceptual information models, suitable for subsequent implementation as relational database systems;

**Assessment Criteria:**

- HD level: Given a written or audio/visual scenario, develop a number of syntactically and structurally correct information models, clearly demonstrate the assumptions and justifications, based on the scenario, that has lead to the design decisions in the conceptual information model, and be capable of engaging in a meaningful discussion about the relative semantic merits of these various information models.
- DN level: Given a written or audio/visual scenario, develop a syntactically and structurally correct conceptual information model, and clearly demonstrate the assumptions and justifications, based on the scenario, that has lead to the design decisions in the conceptual information model.
- CR level: Given a written or audio/visual scenario, develop a conceptual information model that is free from structural flaws, and is correct in terms of its syntactic specification, and is clearly derived from assumptions made about the scenario.
- PP level: Given a written or audio/visual scenario, develop a conceptual information model, according to a given methodology, and demonstrate how that model is derived from the scenario.
- NN level: Given a written or audio/visual scenario, fail to develop a conceptual information model, according to a given methodology, and/or fail to demonstrate how that model is derived from the scenario.

- c) Be aware of the principles of information resource management, and of the functions of a relational database management system;

**Assessment Criteria:**

- HD level: Demonstrate a deep understanding of information resource management and the functions of database management systems, sufficient to discuss the application of such knowledge to a range of relevant scenarios in an insightful manner.
- DN level: Demonstrate an understanding of information resource management principles and the functions of database management systems, sufficient to be able to meaningfully discuss the comparative merits of the application of such knowledge to a range of relevant scenarios.
- CR level: Demonstrate an understanding of information resource management principles and the functions of database management systems, sufficient to apply meaningfully such knowledge to the discussion of a range of relevant scenarios.
- PP level: Adequately explain the basic principles of information resource management, and the basic functions of database management systems.
- NN level: Fail to adequately explain the basic principles of information resource management, and/or the basic functions of database management systems.

- d) Be able to create a relational database, and to construct queries, reports and transactions using the high level features of a relational database management system;

**Assessment Criteria:**

Given a conceptual information model, and a range of requirements for queries, reports and transactions on a database based on that model:

- HD level: Show a deep understanding of the process of implementing the information model as a range of relational models in third normal form, be able to comparatively discuss the relative merits of each such implementation, and be able to argue conclusively that the queries, reports and transactions have been implemented correctly according to their requirements specifications.
- DN level: Produce an implementation of a corresponding relational model that is certified to be at least in third normal form, and for which a range of complex queries, reports and transactions have been correctly implemented, according to their requirements specifications.
- CR level: Produce an implementation of a corresponding relational model that is certified to be at least in third normal form, and for which a range of medium complexity queries and reports have been correctly implemented.
- PP level: Produce an implementation of a corresponding relational model that is in first normal form, and for which at least a range of simple queries and reports have been correctly implemented.
- NN level: Fail to produce an implementation of a corresponding relational model that is in first normal form, and for which at least a range of simple queries and reports have been correctly implemented.

- e) Be capable of demonstrating skills and understanding of the following professional issues:

- Interpersonal communication and information gathering, especially for gathering, negotiating and confirming the requirements of a information model;

**Assessment Criteria:**

- HD level: Demonstrates an in-depth knowledge and deep understanding of the process and need for client consultation and negotiation in the development of the requirements for an information model.
- DN level: Demonstrates an extensive knowledge and understanding of the process and need for client consultation and negotiation in the development of the requirements for an information model.
- CR level: Demonstrates a sound knowledge of the process and need for client consultation and negotiation in the development of the requirements for an information model.

- PP level: Demonstrates a satisfactory knowledge of the process and need for client consultation and negotiation in the development of the requirements for an information model.
- NN level: Fail to demonstrate a satisfactory knowledge of the process and need for client consultation and negotiation in the development of the requirements for an information model.

- The production and maintenance of technical reports and system documentation;

**Assessment Criteria:**

- HD level: To be able to produce a very well structured and presented report that clearly demonstrates a high degree of skill in database design and implementation.
- DN level: To be able to produce a well structured and presented report that demonstrates a high degree of skill in database design and implementation.
- CR level: To be able to produce a well-structured report that demonstrates a reasonable high degree of skill in database design and implementation.
- PP level: To be able to produce a report that has an acceptable structure and presentation, and demonstrates skills in database design and implementation.
- NN level: Fail to produce a report that has an acceptable structure and presentation, and/or fail to demonstrate skills in database design and implementation.

## Generic graduate attributes

The University has defined a set of generic graduate attributes (GGAs) that can be expected of all graduates (see <http://www.utas.edu.au/tl/policies/index.htm>). By undertaking this unit you should make progress in attaining the following attributes:

| Attribute                     | Descriptor  | Unit Specifics   |
|-------------------------------|---|--|
| <b>Knowledge</b>              | Graduates will have an in-depth knowledge in their chosen field of study and the ability to apply that knowledge in practice. They will be prepared for life-long learning in pursuit of personal and professional development. | <ul style="list-style-type: none"> <li>Understand the methodology for the design of conceptual information models;</li> <li>Understand the basic features and operations of a relational database system, including having a working knowledge of the relational query languages SQL;</li> <li>Be capable of applying this knowledge to the development of conceptual information models and their implementation as relational database systems.</li> </ul>   |
| <b>Communication Skills</b>   | Graduates will be able to communicate effectively across a range of contexts.   | <ul style="list-style-type: none"> <li>Be aware of the important of adequate client consultation and negotiation when developing the requirements for an information model;</li> <li>Understand the nature and importance of documentation to support the justification, interpretation and maintenance of information models;</li> <li>Demonstrate a high level of report writing and oral communication;</li> <li>Discuss relevant problems with others, present their own opinions and critically assess the opinions of others.</li> </ul> |
| <b>Problem-solving Skills</b> | Graduates will be effective problem-solvers, capable of applying logical, critical and creative thinking in a range of problems. They will have developed competencies in information literacy.                                 | <ul style="list-style-type: none"> <li>Conceptualise basic problems associated with the representation of the structure and modelling of information;</li> <li>Be capable of applying a well defined methodology to the design and development of a range of conceptual information models;</li> <li>Understand the importance of the production of correct database systems that have been rigorously tested and</li> </ul>   |

|                           |   |   |
|---------------------------|---|---|
|                           |   | verified correct against its requirement specifications.  |
| <b>Global Perspective</b> | Graduates will be able to demonstrate a global perspective and inter-cultural competence in their professional lives. | <ul style="list-style-type: none"> <li>• Appreciate some of the issues of working with clients of different cultures in order to develop appropriate information models;</li> <li>• Understand the key issues faced by information analysts and database designers from any culture in the development of highly functional systems.</li> </ul> |

## Prior knowledge &/or skills

It is assumed that students have a working knowledge of the use of personal computers, and of PC-based operating, such as Windows 2000, as well as a range of applications, such as the Microsoft Office 2000 suite. It is also expected that students are aware of the reporting standards expected by the School for assignment submission, and have a basic knowledge of systems analysis and design, such as may be obtained from the unit BSA101 Business Information Systems.

## Learning resources required

### ***Requisite texts***

*BSA102 Course Guide* (2006), School of Information Systems, University of Tasmania.  
Pratt, PJ & Last, MZ (2006) *A Guide to MySQL*, Thomson Course Technology.

### ***Reference Material***

Hoffer, JA, Prescott, MB, & McFadden, FR (2004) *Modern Database Management*, 7<sup>th</sup> Ed, Prentice Hall.  
Rob, P & Coronel, C (2004) *Database Systems: Design, Implementation Management*, 6<sup>th</sup> Ed, Thomson Learning  
Vaswani, V (2004) *MySQL: The Complete Reference*, McGraw-Hill.

### ***Electronic resources***

#### **Library and Other**

Students are expected to consult and correctly reference material in the University library, in electronic journals and newspapers, and the Web. In particular, students will be expected to consult the MySQL Reference manuals that are located on the web at <http://dev.mysql.com/doc/mysql/en/index.html>

#### **WebCT**

Students are expected to consult the BSA102 pages on the University's Vista/WebCT site regularly to ensure that they are aware of any new topics or material that is placed on that site.

### ***Computer hardware & software***

#### **Unit-specific software**

MySQL v4.1 or later, preferably v5.0

Microsoft Word version 2003 or later

Microsoft Visio version 2003 or later

## For WebCT Vista

To access WebCT Vista from your own computer you will need the appropriate software, and hardware to run that software. See **Learning Online** at <http://www.utas.edu.au/coursesonline/software.htm> for computer software you will need.

**Note:** Older computers may not have the hardware to run some of the required software applications. Contact your local IT support person or the Service Desk on 1818 if you experience difficulties.

See *WebCT Vista: Information for Students* for further information about accessing WebCT Vista.

## Details of teaching arrangements

### **Lectures/Intensive sessions**

Two hours of lectures per week for 13 weeks (weeks 14 - 26):

#### **Hobart:**

Weeks 14 – 26: Wed 14:10 – 16:00 in Law Lecture Theatre 1

#### **Launceston:**

Weeks 14 – 26: Mon 16:10 – 18:00 in Lecture Theatre 6

#### **Cradle Coast:**

Weeks 14 – 26: Thu 9:00 – 10:50 in UCL 1.13

### **Tutorials**

One hour of tutorial per week for 12 weeks (weeks 15 - 26).

#### **Hobart:**

Weeks 15 – 20: Wed 16:10 – 17:00, Thu 9:00 – 9:50, Thu 10:00- 10:50 & Fri 9:00 – 9:50 in IS 216

Weeks 21 – 26: Wed 16:10 – 17:00, Thu 9:00 – 9:50, Thu 10:00- 10:50 & Fri 9:00 – 9:50 in IS 215

#### **Launceston:**

Weeks 15 – 20: Wed 10:00 – 10:50 in D121

Weeks 21 – 26: Wed 10:00 – 10:50 in D130

#### **Cradle Coast:**

Weeks 15 – 26: Thu 11:00 – 11:50 in UCL 1.15

Students are automatically allocated to tutorials. Viewing and changing tutorial times is through the electronic tutorial booking system available from the Resources for Current Students page (accessible via the School's home page) at:

[www.utas.edu.au/infosys/](http://www.utas.edu.au/infosys/)

### **Online activities**

All material for this unit will be made available through WebCT.

### **Practical/laboratory sessions**

The above tutorials will be held in the laboratories, and will cover the preparation and verification of Entity-Relationship diagrams, and the use of Microsoft Access.

## Occupational health and safety (OH&S)

The University is committed to providing a safe and secure teaching and learning environment. In addition to specific requirements of this unit you should refer to the University's policy at: [http://www.admin.utas.edu.au/hr/ohs/pol\\_proc/ohs.pdf](http://www.admin.utas.edu.au/hr/ohs/pol_proc/ohs.pdf)

## Unit schedule

| <b>Week</b><br><i>(commencing)</i>       | <b>Lecture Topics</b>                                 | <b>Tutorial / Practical</b>      | <b>Readings</b>                                  |
|--|---|----------------------------------|--|
| 14<br><i>(17<sup>th</sup> July)</i>      | Introduction; Course Overview                         |                                  | Rob & Coronel                                    |
|  | Database Systems                                      |                                  |  |
| 15<br><i>(24<sup>th</sup> July)</i>      | Information Modelling – Pt 1                          | Database File Structure Problems | Rob & Coronel                                    |
|  | Information Modelling – Pt 2                          |                                  | Rob & Coronel                                    |
| 16<br><i>(31<sup>st</sup> July)</i>      | Sentences and Facts                                   | Gathering facts                  | Rob & Coronel                                    |
|  | Conceptual Modelling                                  |                                  | Rob & Coronel                                    |
| 17<br><i>(7<sup>th</sup> August)</i>     | Entity-Association Modelling                          | Fact modelling                   | Rob & Coronel                                    |
|  | Existence Dependencies                                |                                  | Rob & Coronel                                    |
| 18<br><i>(14<sup>th</sup> August)</i>    | Entity-Association Modelling Exercise                 | Entity-Association modelling     | Rob & Coronel                                    |
|  | Dependency Structures                                 |                                  | Rob & Coronel                                    |
| 19<br><i>(21<sup>st</sup> August)</i>    | Common Structural Problems                            | Entity-Association modelling     | Rob & Coronel                                    |
|  | Implementation as Relations                           |                                  | Rob & Coronel                                    |
| 20<br><i>(28<sup>th</sup> August)</i>    | Normalization   | Entity-Association modelling     | Rob & Coronel                                    |
|  | E-A Design & Normalization Example                    |                                  |  |
| Mid-semester Break                       |   |                                  |  |
| 21<br><i>(11<sup>th</sup> September)</i> | Case Study on Relational Design                       | Relational database modelling    | Pratt & Last, Ch 3                               |
|  | Introduction to MySQL                                 |                                  |  |
| 22<br><i>(18<sup>th</sup> September)</i> | Basic SQL   | Creating a MySQL database        | Pratt & Last, Ch 4                               |
|  | Intermediate SQL                                      |                                  | Pratt & Last, Ch 5                               |
| 23<br><i>(25<sup>th</sup> September)</i> | Advanced SQL – Pt 1                                   | Introductory SQL                 | Pratt & Last, Ch 6                               |
|  | Advanced SQL – Pt 2                                   |                                  | Pratt & Last, Ch 7                               |
| 24<br><i>(2<sup>nd</sup> October)</i>    | Transactions  | Advanced SQL                     | Vaswani, Ch 12                                   |
|  | Apache – MySQL – PHP architecture                     |                                  |  |
| 25<br><i>(9<sup>th</sup> October)</i>    | Enterprise Information Architecture / Data Warehouses | SQL Transactions                 | <a href="http://www.ewita.com">www.ewita.com</a> |
|  | Social Issues; Ethics, Privacy, Access.               |                                  |  |
| 26<br><i>(16<sup>th</sup> October)</i>   | Review  | Online Test                      |  |
|  | Model Exam  |                                  |  |

**Note:** The Unit Co-ordinator reserves the right to alter the lecture and/or tutorial arrangements. Students will be advised of changes to the program via their University email account and it remains the responsibility of the student to check their email for such changes.

## Learning expectations and strategies

### **Expectations of Students Enrolled in the Unit**

The University is committed to high standards of professional conduct in all activities, and holds its commitment and responsibilities to its students as being of paramount importance. Likewise, it holds expectations about the responsibilities students have as they pursue their studies within the special environment the University offers.

The University's Code of Conduct for Teaching and Learning states:

*Students are expected to participate actively and positively in the teaching/learning environment. They must attend classes when and as required, strive to maintain steady progress within the subject or unit framework, comply with workload expectations, and submit required work on time.*

It is expected that students will familiarise themselves with access and use of the WebCT system operated by the University for the electronic delivery of course materials, and for various forms of communication.

It is expected that students will consult email sent to their University email address at least twice a week for notices relating to the administration of the unit, and for notification of the results of assignments.

It is expected that students will submit assignments for the unit by the specified dates and times, unless prior approval has been granted via an assignment extension form, at least 24 hours before the assignment is due to be submitted.

It is expected that students will read the background material specified in the course curriculum, will actively attend and participate in tutorials, and be prepared to discuss relevant issues arising with tutors, lecturers and fellow students.

In order to pass this unit, the School of Information Systems expects that students:

- Achieve a total of at least 45% in continuing assessment of the unit; and
- Achieve a total of at least 45% in the examination component of the unit; and
- Achieve a total mark of at least 50% in the total assessment of the unit.

Note: In exceptional circumstances, the School reserves the right to adjust the above assessment rule.

These expectations are in addition to those specified in relevant University regulations.

### ***Students' Expectations of the Unit***

Students enrolled in BSA102 may reasonably expect the following:

- To have all appropriate course material available electronically (on a week-by-week basis) via the University WebCT system.
- To be able to contact a lecturer or tutor by electronic mail, to raise issues arising in the unit, either relating to content or student performance within the unit.
- Subject to availability, to be able to discuss such issues in person with the lecturer or tutor
- That assignments will be marked and the marks will be returned with 3 weeks of due dates
- That all relevant notices regarding the administration of the unit, including any necessary changes, will be communicated to all students enrolled in the unit via the University's email system.

These expectations are in addition to those specified in relevant University regulations.

### ***Learning strategies***

If you need assistance in preparing for study please refer to your tutor or lecturer. For additional information refer to the Learning Development website:

<http://www.utas.edu.au/learndev/>

If you will be using WebCT for the first time and would like some information on how to use WebCT refer to the following guide:

[http://www.utas.edu.au/coursesonline/docs/using\\_webct.pdf](http://www.utas.edu.au/coursesonline/docs/using_webct.pdf)

Additional hours will be required to complete the assignments in the laboratories, or elsewhere, using a PC with Microsoft Word 2000 and Microsoft Access 2000.

## **Assessment**

### ***Assessment schedule***

| <b>Component</b>     | <b>Weight</b> | <b>Due date</b>   |
|----------------------|---------------|---|
| Assignment 1         | 25%           | Thursday, 31 <sup>st</sup> Aug 2006 (week 20)                                 |
| Assignment 2         | 25%           | Thursday, 5 <sup>th</sup> Oct 2006 (week 24)                                  |
| Online Test          | 10%           | During tutorial times in Week 26  |
| End of semester exam | 40%           | October-November examination period<br>(as advised by Student Administration) |

## **Assessment details**

### **Assessment task 1**

#### **Task description**

The first assignment involves gathering information from an interview with a business owner. From this interview the student must construct a conceptual information model, using the entity-association design methodology covered in lectures and tutorials. The output of this assignment is an entity-association model, together with support assumptions, justification and other relevant documentation.

#### **Task length**

Entity-Association model, plus approximately 2,000 word report

#### **Links to unit's learning outcomes**

This assignment is aligned with the achievement of learning outcomes:

- a) Have a knowledge of the principles of conceptual information modelling techniques;

##### **Assessment Criteria**

- HD level: Shows evidence of a deep understanding of the conceptual information modelling and relevant methodology/ies for the development of such information models.
- DN level: Shows evidence of being able to distinguish relevant areas of application of information modelling as a static modelling scheme, and be able to relate the methodology for development of conceptual information models to other modelling techniques, such as data flow diagrams.
- CR level: Demonstrates an understanding of what a conceptual information model is, and clearly demonstrate an understanding of how and why information analysts employ a specific methodology for the development of conceptual information models.
- PP level: Demonstrates an understanding of what a conceptual information model is, and be able to explain how and why an information analyst employs a specific methodology for the development of conceptual information models.
- NN level: Fail to demonstrate an understanding of what a conceptual information model is, and/or fail to explain how and why an information analyst employs a specific methodology for the development of conceptual information models.

- b) Be able to undertake the analysis and design of conceptual information models, suitable for subsequent implementation as relational database systems;

##### **Assessment Criteria:**

- HD level: Given a written or audio/visual scenario, develop a number of syntactically and structurally correct information models, clearly demonstrate the assumptions and justifications, based on the scenario, that has lead to the design decisions in the conceptual information model, and be capable of engaging in a meaningful discussion about the relative semantic merits of these various information models.

- DN level: Given a written or audio/visual scenario, develop a syntactically and structurally correct conceptual information model, and clearly demonstrate the assumptions and justifications, based on the scenario, that has lead to the design decisions in the conceptual information model.
- CR level: Given a written or audio/visual scenario, develop a conceptual information model that is free from structural flaws, and is correct in terms of its syntactic specification, and is clearly derived from assumptions made about the scenario.
- PP level: Given a written or audio/visual scenario, develop a conceptual information model, according to a given methodology, and demonstrate how that model is derived from the scenario.
- NN level: Given a written or audio/visual scenario, fail to develop a conceptual information model, according to a given methodology, and/or fail to demonstrate how that model is derived from the scenario.

c) Be capable of demonstrating skills and understanding of the following professional issues:

- Interpersonal communication and information gathering, especially for gathering, negotiating and confirming the requirements of a information model;

**Assessment Criteria:**

- HD level: Demonstrate an in-depth knowledge and deep understanding of the process and need for client consultation and negotiation in the development of the requirements for an information model.
- DN level: Demonstrate an extensive knowledge and understanding of the process and need for client consultation and negotiation in the development of the requirements for an information model.
- CR level: Demonstrate a sound knowledge of the process and need for client consultation and negotiation in the development of the requirements for an information model.
- PP level: Demonstrate a satisfactory knowledge of the process and need for client consultation and negotiation in the development of the requirements for an information model.
- NN level: Fail to demonstrate a satisfactory knowledge of the process and need for client consultation and negotiation in the development of the requirements for an information model.

- The production and maintenance of technical reports and system documentation;

**Assessment Criteria:**

- HD level: To be able to produce a very well structured and presented report that clearly demonstrates a high degree of skill in information capture and analysis.
- DN level: To be able to produce a well structured and presented report that demonstrates a high degree of skill in information capture and analysis.
- CR level: To be able to produce a well-structured report that demonstrates a reasonable high degree of skill in information capture and analysis.

- PP level: To be able to produce a report that has an acceptable structure and presentation, and demonstrates skills in information capture and analysis.
- NN level: Fail to produce a report that has an acceptable structure and presentation, and/or fail to demonstrate skills in information capture and analysis.

***Assessment criteria /  
guidelines***

See above

***Date due***

Thursday, 31<sup>st</sup> August 2006 (week 20)

## Assessment task 2

### Task description

Given the conceptual information model developed in assignment 1, translate that model into a relational model, and implement it using MySQL. This involves a degree of design and implementation to demonstrate that the student can capably use the features offered in MySQL.

### Task length

MySQL database, plus approximately 2,000 word report

### Links to unit's learning outcomes

This assignment is aligned with the achievement of learning outcomes:

- a) Be aware of the principles of information resource management, and of the functions of a relational database management system;

#### **Assessment Criteria:**

HD level: Demonstrate a deep understanding of information resource management and the functions of database management systems, sufficient to discuss the application of such knowledge to a range of relevant scenarios in an insightful manner.

DN level: Demonstrate an understanding of information resource management principles and the functions of database management systems, sufficient to be able to meaningfully discuss the comparative merits of the application of such knowledge to a range of relevant scenarios.

CR level: Demonstrate an understanding of information resource management principles and the functions of database management systems, sufficient to apply meaningfully such knowledge to the discussion of a range of relevant scenarios.

PP level: Adequately explain the basic principles of information resource management, and the basic functions of database management systems.

NN level: Fail to adequately explain the basic principles of information resource management, and/or the basic functions of database management systems.

- b) Be able to create a relational database, and to construct queries, reports and transactions using the high level features of a relational database management system;

#### **Assessment Criteria:**

Given a conceptual information model and a range of requirements for queries, reports and transactions on a database based on that model:

HD level: Show a deep understanding of the process of implementing the information model as a range of relational models in third normal form, be able to comparatively discuss the relative merits of each such implementation, and be able to argue conclusively that the queries, reports and transactions have been implemented correctly according to their requirements specifications.

DN level: Produce an implementation of a corresponding relational model that is certified to be a least in third normal form, and for which a range of complex queries, reports and transactions have been correctly implemented, according to their requirements specifications.

- CR level: Produce an implementation of a corresponding relational model that is certified to be at least in third normal form, and for which a range of medium complexity queries and reports have been correctly implemented.
- PP level: Produce an implementation of a corresponding relational model that is in first normal form, and for which at least a range of simple queries and reports have been correctly implemented.
- NN level: Fail to produce an implementation of a corresponding relational model that is in first normal form, and for which at least a range of simple queries and reports have been correctly implemented.

c) Be capable of demonstrating skills and understanding of the following professional issues:

- The production and maintenance of technical reports and system documentation;

**Assessment Criteria:**

- HD level: To be able to produce a very well structured and presented report that clearly demonstrates a high degree of skill in database design and implementation;
- DN level: To be able to produce a well structured and presented report that demonstrates a high degree of skill in database design and implementation;
- CR level: To be able to produce a well-structured report that demonstrates a reasonable high degree of skill in database design and implementation;
- PP level: To be able to produce a report that has an acceptable structure and presentation, and demonstrates skills in database design and implementation.
- NN level: Fail to produce a report that has an acceptable structure and presentation, and/or fail to demonstrate skills in database design and implementation.

**Assessment criteria / guidelines**

As above

**Date due**

Thursday, 5<sup>h</sup> October 2006 (week 24)

## Online test

### **Description / conditions**

During the tutorial times in week 26 there will be a 45 minute test, consisting of a series of multiple choice questions. These questions will focus on issues associated with the development of database systems using MySQL and the SQL language.

The online test covers the learning outcomes (c) and (d) given above.

An example test will be provided via WebCT.

### **Date**

The online test will be conducted during the tutorial times in week 26.

## Final exam

### **Description / conditions**

The final exam, held during the November examination period, is a two hour, open book examination\*\*.

The final examination covers all of the learning outcomes given above.

An example examination will be provided via WebCT.

\*\* Open book examination: Any material or equipment, with the exception of a computer, may be taken into the examination, provided it is relevant to the examination and it does not cause a public nuisance.

### **Date**

The final exam is conducted by the University Registrar in the formal examination period. See the **Current Students** homepage (Examinations and Results) on the University's website.

## How your final result is determined

Your tentative final mark is determined by calculating the weighted sum of the marks that you have achieved for each of the assessment components: Assignment 1, Assignment 2 and the end of semester Exam. The School's Assessors Meeting reserves the right to make minor adjustment to this tentative final mark in determining the final recommendation to the Faculty Assessors Meeting.

## Submission of assignments

Students must submit assignments for the unit by the specified dates and times, unless prior approval has been granted via an assignment extension form, at least 24 hours before the assignment is due to be submitted.

Every assessment task has a due date and method of submission. These due dates and methods of submission must be adhered to.

For BSA102 all assignments are to be submitted via WebCT. No email submissions will be accepted, unless by prior arrangement with the Unit Coordinator. Students are to name their files in the following manner: <username>\_Assignment<Number>, for example: bloggsj\_Assignment1.

Notes: Students must take responsibility for the correct submission of their assignments. Students are expected to adhere to the following procedure for submission:

- Once submitted to WebCT, submitted files MUST be checked by the student to ensure that correct submission of the file has been undertaken.
- Students are expected to notify the Lecturer WITHIN TWO HOURS of submission if their files have not been submitted correctly.

Students must take responsibility for safely backing up of their own files during the academic year to ensure that no files are permanently lost.

## Requests for extensions

Extensions will be given only under the following conditions:

- Employment related issues: Arrangements for an extension must be made with the lecturer prior to the assignment due date. Documentation from your employer is required.
- Illness: A medical certificate must be presented to the lecturer either prior to the due date or as soon as possible after the due date.

The lecturer of the unit will address any extraordinary extension falling outside of these criteria.

All extensions must be applied for via email to the Unit Coordinator, or on the appropriate form, which is available at:

[http://www.infosys.utas.edu.au/students/forms/asst\\_extension.pdf](http://www.infosys.utas.edu.au/students/forms/asst_extension.pdf)

Verbal extensions will not be accepted.

Requests for extension of submission of an assignment will only be received at least 24 hours prior to the deadline for that assignment.

Students should not assume that all extension applications will be granted. Students must have received confirmation of the extension by the Lecturer in order for an extension to be granted.

Any extension granted will have a new submission due date and time.

Assignments that are not submitted by the due date and time, and which are not covered by an approved extension, will incur a penalties.

## Penalties

The School of Information Systems imposes penalties on late submission at the rate of 10% (of mark achieved) per day or part thereof (excluding extensions) after the date on which the submission was due.

## Review of results and appeals

Under clause 22.1 of the Rule of Academic Assessment 111, students can request the review of any piece of continuous assessment, and should submit such a request in writing within 5 working days of the release of their result of that piece of continuous assessment.

Under clause 23 of the Rule of Academic Assessment 111, students can request the review of their final result in a unit. Such a request must be submitted in writing on a form available through Student Administration, and pay any fees associated with the lodging of the request.

The request and payment should be made within 10 working days of the date of notification of the final result for the unit.

Students are referred to:

<http://www.admin.utas.edu.au/HANDBOOKS/UTASHANDBOOKS/RULES/RULE111.html>

[http://www.admin.utas.edu.au/ac\\_serv/flowchart\\_review\\_assesment.pdf](http://www.admin.utas.edu.au/ac_serv/flowchart_review_assesment.pdf)

## Academic referencing

In your written work you will need to support your ideas by referring to scholarly literature, works of art and/or inventions. It is important that you understand how to correctly refer to the work of others and maintain academic integrity.

Failure to appropriately acknowledge the ideas of others constitutes academic dishonesty (plagiarism), a matter considered by the University of Tasmania as a serious offence.

The appropriate referencing style for this unit is Harvard Style.

For information on presentation of assignments, including referencing styles:

<http://www.utas.edu.au/library/assist/gpoa/gpoa.html>

Please read the following statement on plagiarism. Should you require clarification please see your unit coordinator or lecturer.

## Plagiarism

Plagiarism is a form of cheating. It is taking and using someone else's thoughts, writings or inventions and representing them as your own; for example, using an author's words without putting them in quotation marks and citing the source, using an author's ideas without proper acknowledgment and citation, copying another student's work.

If you have any doubts about how to refer to the work of others in your assignments, please consult your lecturer or tutor for relevant referencing guidelines, and the academic integrity resources on the web at <http://www.utas.edu.au/tl/supporting/academicintegrity/index.html>. The intentional copying of someone else's work as one's own is a serious offence punishable by penalties that may range from a fine or deduction/cancellation of marks and, in the most serious of cases, to exclusion from a unit, a course or the University. Details of penalties that can be imposed are available in the Ordinance of Student Discipline – Part 3 Academic Misconduct, see <http://www.utas.edu.au/universitycouncil/legislation/>

**The University reserves the right to submit assignments to plagiarism detection software, and might then retain a copy of the assignment on its database for the purpose of future plagiarism checking.**

For further information on this statement and general referencing guidelines, see <http://www.utas.edu.au/plagiarism/> or follow the link under 'Policy, Procedures and Feedback' on the **Current Students** homepage.

Please note that the School of Information Systems uses a range of software applications to analyse submitted student assignments and detect cases of plagiarism.

## Further information and assistance

If you are experiencing difficulties with your studies or assignments, have personal or life planning issues, disability or illness which may affect your course of study, you are advised to raise these with your lecturer in the first instance.

There is a range of University-wide support services available to you including Teaching & Learning, Student Services, International Services. Please refer to the **Current Students** homepage at: <http://www.utas.edu.au/students/>

Should you require assistance in accessing the Library visit their website for more information at <http://www.utas.edu.au/library/>

## Help resolving concerns about this unit

In the first instance you should contact your lecturer. If the matter is still unresolved and you would like to know who to contact or the procedures for resolving your concern refer to the following website:

[http://www.admin.utas.edu.au/ac\\_serv/complaints\\_info.html](http://www.admin.utas.edu.au/ac_serv/complaints_info.html)

The Hobart based Tasmanian University Union (TUU) or the Launceston/Burnie based Student Association (SA) may also be able to assist.

The School reserves the right to alter the details contained in this Unit Outline. Students will be advised of changes to the outline via their University email account and it remains the responsibility of the student to check their email for such changes.

For assistance regarding this unit please contact the Unit Coordinator via the email address [BSA102Help@infosys.utas.edu.au](mailto:BSA102Help@infosys.utas.edu.au)