



UNIVERSITY
OF TASMANIA

塔 斯 马 尼 亚 大 学

School of Information Systems

商 学 院 信 息 系 统 学 院

BSA206

Database Management Systems

Unit Outline

课 程 大 纲

Transnational Education Program

(Shanghai Fisheries University, China)

(中国 上海水产大学)

Semester 1, 2007

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Unit Details

School:	Information Systems
Faculty:	Business
Unit Title:	Database Management Systems
Unit Code:	BSA206
Prerequisites	BSA102, Information Modelling and Infrastructures
Campus & Mode:	IEN Institute, Nanhui Campus, Shanghai Fisheries University: Flexible, Internal
Unit Weight:	12.5%
Teaching Staff:	Zhao Huijuan
Consultation Hours:	To be advised

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1. Unit Description

This unit is within the Bachelor of Information Systems course, and is provided to allow students within that, and other courses, to develop their database skills beyond an elementary knowledge of SQL to a level where they can undertake significant database system development.

2. Aim

The aim of this unit is to develop skills in database management to a professional level broadly equivalent to that established by the external Oracle Certified Professional stage 1 exam 1Z0-001.

3. Learning Outcomes

On completion of this unit, you should be able to:

1. Employ a detailed knowledge of the use of SQL and related technologies in using and maintaining a relational database for an existing application (at an equivalent level to the external Oracle Certified Professional level 1 exam 1Z0-001);
2. Employ a detailed knowledge of the use of SQL and related technologies in establishing a relational database for a new application (at an equivalent level to the external Oracle Certified Professional level 1 exam 1Z0-001);
3. Be able to describe how the relational database approach compares to alternative approaches.

3.1 Evidence of Achieving Learning Outcomes

Upon successful completion of this unit a student should have attained:

1. A detailed knowledge of the use of SQL and related technologies in using and maintaining a relational database (at an equivalent level to the external Oracle Certified Professional stage 1 exam 1Z0-001);

Assessment criteria:

HD level: As well as demonstrating high-order skills in maintaining a relational database management system, also demonstrates a level of creativity and an attention to detail in seeking out optimal solutions to users problems.

DN level: Demonstrates high-order skills in maintaining a relational database management system, inspiring confidence in the ability to select appropriate mechanisms for any given problem situation.

CR level: Demonstrates an ability to carry out the more challenging aspects of maintaining a relational database management system.

PP level: Demonstrates an ability to maintain and manipulate a relational database management system.

NN level: Fails to demonstrate an ability to maintain and manipulate a relational database management system.

2. A detailed knowledge of the use of SQL and related technologies in establishing a relational database (at an equivalent level to the external Oracle Certified Professional stage 1 exam 1Z0-001);

Assessment criteria:

HD level: As well as demonstrating high-order skills in creating a relational database management system, also demonstrates a level of creativity and an attention to detail in seeking out optimal solutions to users problems.

DN level: Demonstrates high-order skills in creating a relational database management system, inspiring confidence in the ability to select appropriate mechanisms for any given problem situation.

CR level: Demonstrates an ability to manage the more challenging aspects of creating a relational database management system.

PP level: Demonstrates an ability to manage the basic aspects of creating a relational database management system.

NN level: Fails to demonstrate an ability to manage the basic aspects of creating a relational database management system.

3. Be able to describe how the relational approach compares to alternative approaches;

Assessment criteria:

HD level: Given a written scenario,

- Describe and select from a number of alternative database implementation approaches, and
- Clearly demonstrate the assumptions and justifications, based on the scenario, that has lead to the decisions proposed, and
- Be capable of engaging in a meaningful discussion about the relative semantic merits of these various alternatives.

DN level: Given a written scenario, can select an appropriate database software approach based on a realistic comparative evaluation.

CR level: Can evaluate the differences in approaches of various database software models.

PP level: Can identify features of other database approaches that are different from the relational approach.

NN level: Fails to identify features of other database approaches that are different from the relational approach.

4. Generic Graduate Attributes

This unit contributes to the development of the following generic attributes:

- **Knowledge** – the unit requires the student to acquire knowledge about database development and in particular to:
 - a) Understand the limitation of, and have the capacity to evaluate, their current knowledge;
 - b) Use research and analysis skills to independently use the World Wide Web and other sources to develop a broad knowledge base about database development;
 - c) Synthesise this knowledge into a cohesive framework;
 - d) Select, given the available teaching and learning resources, a learning strategy that best suits them.
- **Communication skills** – the unit requires students
 - a) To read and understand written specifications, clarifying these where necessary;
 - b) To use a variety of communication forms – one-on-one and group discussions, plus eMail.
 - c) To access and organise significant quantities of information;
 - d) To use technology to produce written documentation containing well-reasoned arguments
- **Problem-solving skills** – the unit requires students to conceptualise problems and search for the optimal approach from a range of possible solutions
- **Global perspective** – the unit seeks to develop in students an awareness that modern databases are used in a global context through the Internet.
- **Social responsibility** – the unit seeks to get students to acknowledge the social and ethical implications of database development in two ways
 - a) That testing during systems development is required so that systems perform as desired;
 - b) That available technology controls be used to protect the confidentiality of database contents.

5. Prior Knowledge and / or Skills

5.1 Assumed Skills

Students must have a working knowledge of the principles of database design, and have the ability to interpret common database models expressed using entity-relationship diagrams and similar notations.

Students are also expected to have had some exposure to SQL, and to be familiar with the basic features of the FROM, WHERE, GROUP BY, HAVING and ORDER BY clauses of the SELECT statement.

Familiarity with WebCT Vista and with industry standard personal computer productivity software (such as Microsoft Office) is assumed.

5.2 Prerequisite Unit

BSA102 - Information Modelling and Infrastructures

6. Texts, References and Learning Resources

6.1 Required Text

Morris-Murphy, Lannes L., 2003, *Oracle 9i: SQL with an Introduction to PL/SQL*, Thompson Course Technology, Boston, Mass.

Or

Casteel, Joan, 2007, *Oracle 10g*, Thompson Course Technology, Boston, Mass.

6.2 Recommended Readings

Dwyer, J., 1997, *The Business Communication Handbook*, 4th edition, Prentice-Hall, Sydney, Australia.

Hoffer, J.A., Prescott, M.B. & McFadden, F.R., 2002, *Modern Database Management*, 6th edition, Pearson Education (Prentice-Hall), Upper Saddle River, New Jersey.

Kroenke, D.M., 2004, *Database Processing: Fundamentals, Design, and Implementation*, 9th edition, Pearson Education (Prentice-Hall), Upper Saddle River, New Jersey.

6.3 Learning Resources

Electronic copies of appropriate software manuals and links to relevant WWW material will be provided through WebCT Vista.

6.4 Software Requirements

Access to appropriate Oracle software will be provided through the computer laboratories. There is no requirement for students to provide software of their own.

7. Teaching Arrangements

As advised by IEN Institute for SFU

8. Unit Schedule

Module	Lectures	Textbook Reading (Morris-Murphy)	Workshops (As on WebCT Vista)
1	<ul style="list-style-type: none"> Introduction to Unit Introduction to Oracle / Overview of database concepts Oracle SQL*Plus Basic SQL select statements 	Chapters 1 and 2	Single table select statements
2	<ul style="list-style-type: none"> Restricting rows and sorting data Joining tables Selected single-row functions 	Chapters 3, 4, and 5	Multiple table select statements
3	<ul style="list-style-type: none"> Group functions Subqueries 	Chapters 6 and 7	Single row and group functions
4	<ul style="list-style-type: none"> Table creation and management Constraints 	Chapters 8 and 9	SQL subqueries
5	<ul style="list-style-type: none"> Data manipulation 	Chapter 10	SQL table management and constraints
6	<ul style="list-style-type: none"> Views Additional database objects 	Chapters 11 and 12	SQL data manipulation and views
7	<ul style="list-style-type: none"> User creation and management Formatting readable output 	Chapters 13 and 14	Additional Oracle database objects
8	<ul style="list-style-type: none"> Transaction integrity and concurrency Introduction to PL/SQL 	Chapter 15	Formatting Oracle output
9	<ul style="list-style-type: none"> Further PL/SQL 	Chapter 15	Introduction to PL/SQL
10	<ul style="list-style-type: none"> Cursors and exceptions 	Chapter 16	Further PL/SQL
11	<ul style="list-style-type: none"> Interface Development Databases and the Web 	As on WebCT Vista	Oracle cursors and exception handling
12	<ul style="list-style-type: none"> Object Oriented DBMS 	As on WebCT Vista	Alternative database models and systems
13	<ul style="list-style-type: none"> Sharing Enterprise Data 	As on WebCT Vista	No Workshop

Note: The unit co-ordinator reserves the right to alter this schedule. Any necessary schedule changes will be posted on the unit's WebCT Vista pages, and for urgent changes will be sent to student's University eMail accounts. You are required to consult both sources frequently.

9. Learning Expectations and Strategies

9.1 Expectations

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 Vista system operated by the University for the electronic delivery of course materials, and for various forms of communication.

It is further expected that students will regularly consult the unit's WebCT Vista notice board page, and read eMail sent to their University eMail address for notices relating to the administration of the unit. It is expected that students will visit WebCT Vista and read and respond to eMail at least twice a week.

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 peruse the contents list of background material provided as part of the course, and will use this content knowledge to identify material worthy of more detailed reading. It is expected that students will actively attend and participate in scheduled classes, and be prepared to discuss relevant issues arising with the lecturer and fellow students.

Because this is a hand-on course requiring practical computing skills, and further because most material is delivered on-line through WebCT Vista, students are expected to largely manage and take responsibility for their own learning.

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

9.2 Student Expectations of the Unit

Students enrolled in BSA206 may reasonably expect the following:

1. To have all appropriate course material available prior to its use electronically through the University WebCT Vista system.
2. To be able to contact a lecturer or tutor by electronic mail, to raise issues arising in the unit, either relating to content or their performance within the unit.
3. To be able via eMail to make an appointment to see a tutor at a mutually convenient time.
4. That assignments submitted on time will be marked and returned with 21 days of receipt of their submission
5. That assignments will be marked both qualitatively, in terms of grades and comments, and also quantitatively in terms of a final mark and associated grade for each assignment
6. 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 notices posted on the unit's WebCT Vista pages or via eMail, whichever is more appropriate.

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

9.3 Learning Strategies

If you need assistance in preparing for study please refer to the lecturer / tutor. For additional information refer to the Learning Development website:
<http://www.utas.edu.au/tl/students/>

If you will be using WebCT Vista for the first time and would like some information on how to use WebCT Vista refer to the following guide:
<http://www.utas.edu.au/coursesonline/>

This is an intensive hands-on unit that requires you to listen to fundamental concepts, observe practical demonstrations, and then try out these concepts for yourselves, followed by an identification of how this skill and knowledge might be more generally applied in a real-world situation. A passive learning strategy is unlikely to succeed. Rather, you should anticipate the need for an active strategy of learning by doing. You are encouraged to explore available knowledge sources, and to see distributed course material as the beginning, rather than the end point of your learning. All assignment submissions are an individual's own efforts.

10. Assessment Summary

Component	Weight / Value	Due Date
Assignment 1 - Database Creation Report	30%	TBA (To Be Advised)
Assignment 2 - Database Maintenance Report	40%	TBA
Assignment 3 - Database Options Report	30%	TBA

Note: All three assignments are *individual*.

10.1 How your Final Result is Determined

The final result is determined from adding together the weighted scores for each of the three assignments, subject to such results being regarded as provisional until a final determination is made by a meeting of the School's assessors prior to official result publication.

10.2 Submission of Assignments

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

All assignments should be submitted through WebCT Vista. No other form of submission is acceptable. No eMail or hard copy submissions are acceptable.

Note: 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 Vista, 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 12 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.

10.3 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.
- 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 on the appropriate form, which is available at http://www.infosys.utas.edu.au/students/forms/asst_extension.pdf. This form must be completed and submitted to the unit co-ordinator through the School Office. Verbal or eMail requests for extensions will not be accepted. If approved, the extension request form will be returned with the lecturer's signature, and this signed copy should be retained by the student as documentary evidence that an extension was granted.

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 will incur the following penalties:

10.4 Penalties 惩罚

10% (of mark achieved) per day or part thereof (excluding extensions) for late submissions.

10.5 Review of Assessment and Appeals

It is expected that students will adhere to the following policy for review of any piece of continuous assessment.

- Within 5 days of the release of the assessment result, the student should request an appointment with the Lecturer/Coordinator. **The student should be prepared to discuss specifically which section of the marking criteria they are disputing and why they consider the mark is inappropriate.**
- Following this discussion, students may request a formal remark of the original submission (in accordance with Rule of Academic Assessment 111, clause 22.1). This remark will be undertaken, where practicable, by an alternative assessor.

Under Rule of Academic Assessment 111, clause 23, students may also request a review of the final result in a unit. The request and payment must be made within 10 days from the date of the result notification. Students are referred to:

http://www.utas.edu.au/universitycouncil/reports/report_19nov04/rule123.pdf or
http://www.admin.utas.edu.au/ac_serv/flowchart_review_assesment.pdf

11. 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 the School of Information Systems is Harvard Referencing. Students are expected to adhere to the School of Information System's preferred method of Referencing and Citation, as outlined in: <http://www.utas.edu.au/library/assist/gpoa/gpoa2.html>

For information on presentation of assignments, including referencing styles: <http://www.utas.edu.au/library/assist/gpoa/gpoa.html>

12. Plagiarism 抄袭 (剽窃)

While students are encouraged to discuss the assignments in this unit and to engage in active learning from each other, it is important that they are also aware of the University's policy on plagiarism. Plagiarism is taking and using someone else's thoughts, writings or inventions and representing them as your own; for example downloading an essay wholly or in part from the internet, copying another student's work or using an author's words or ideas without citing the source.

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 or 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/>

... continued

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.

抄袭是一种欺骗行为。任何把别人的思想，作品和发明擅自占为己有的行为均被视为抄袭。比如，引用有关权威的词句而对未其出处进行必要的说明，或者引用有关作者思想未作必要的注释，或者拷贝其他学生的作业。

刻意抄袭别人的作品为己用，是一种严重的错误，也是一种学术欺诈。学校将视情节给予罚款，降低或取消成绩，或者严重者将取消学籍。**有任何疑问请与有关人员联系。**

It is important that you understand this statement on plagiarism. Should you require clarification please see your unit coordinator or lecturer. Useful resources on academic integrity, including what it is and how to maintain it, are also available at:

<http://www.utas.edu.au/tl/supporting/academicintegrity/students.html>

13. Additional Assistance

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

13.1 Help Resolving Concerns about this Unit

It is expected that students will adhere to the following policy for making any complaint or grievance directly related to a Unit:

- a) In the first instance, students are to approach the Lecturer or Unit Coordinator concerned and arrange a time to speak with them about their concern.
- b) If an issue remains unresolved, the student should approach the Head of School and arrange a time to speak with them about their concern.

If the School's internal policy of complaints is unable to resolve an issue, students should consult Ordinance 8 Student Complaints for further direction.

14. Unit Feedback

The University of Tasmania, on a regular basis, evaluates its teaching and learning environment through the Student Evaluation of Teaching and Learning (SETL) system. The University values feedback from students and from time to time you will be asked to complete a SETL evaluation for a unit of study. For more information on SETL go to: www.utas.edu.au/tl/haveyoursay.html

15. Disclaimer

While every effort has been made to ensure that the information in this document is correct, the School reserves the right to alter the details contained in this Unit Outline. Students will be advised of changes to the outline either via the unit's WebCT Vista pages, or via their University eMail account and it remains the responsibility of the student to check these sources frequently in case such changes are made.