



## Course specification

<b>Description: Database Applications Development with Oracle</b>						
Subject	Cat-nbr	Class	Term	Mode	Units	Campus
CIS	2004	44572	2, 2005	ONC	1.00	Toowoomba

<b>Academic group:</b>	FOBUS
<b>Academic org:</b>	FOB005
<b>Student contribution band:</b>	2
<b>ASCED code:</b>	020303

### STAFFING

Examiner: Glen Van Der Vyver

Moderator: Srecko Howard

### REQUISITES

Pre-requisite: CIS1000 Co-requisite: CIS2002

### RATIONALE

Large-scale databases have become core tools in modern Information Technology. The overwhelming majority of IT professionals are exposed to databases in the workplace and they are often expected to develop expertise in one or more database product. It is therefore imperative that students are introduced to the fundamentals of a major DBMS product and the development of client side and server side applications, queries and utilities within the DBMS environment. Beyond this, students should also develop the capacity to think critically about database theory and the application thereof. The Oracle DBMS is a leading edge product which is very well established in the marketplace, and is therefore highly suitable as the software vehicle for this course.

### SYNOPSIS

In this course, students gain an understanding of the practical application of the techniques and theory covered in CIS2002. Students will gain a working knowledge of Oracle SQL and the procedural extension to SQL known as PL/SQL. The course will cover client-side as well as server-side PL/SQL, including stored procedures, functions and triggers. Finally, students extend their theoretical knowledge by studying a small number of selected topics in database theory.

### OBJECTIVES

On completion of this course students will be able to:

1. apply the modelling and normalisation skills acquired in CIS 2002 to the creation of database objects;
2. write statements and programs in the Oracle (SQL) environment;

3. build upon the skills in the relational algebra acquired in CIS2002 to write SQL and SQL\*PLUS statements at a variety of levels of complexity;
4. write client-side and server-side code using Oracle PL/SQL;
5. demonstrate a factual and critical knowledge of a limited number of topics in database theory;
6. explain the architecture of Oracle and evaluate the extent to which it meets the requirements of selected theoretical architecture/s;
7. explain and evaluate the key concepts of client/server and Internet architectures;
8. explain and evaluate the role and function of the DBA.
9. explain the crucial importance of the database in applications development for the 'Net'; and
10. write PL/SQL programs, stored procedures and triggers to solve problems.

## TOPICS

	Description	Weighting (%)
1.	RDBMS Theory: Client/Server and Internet architecture; Structure and architecture of Oracle; Database administration	15.00
2.	DBMS Applications Programming (Oracle)	85.00

## TEXT and MATERIALS required to be PURCHASED or ACCESSED

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at <http://bookshop.usq.edu.au> click 'Semester', then enter your 'Course Code' (no spaces).

CIS2004 study package available from the USQ Bookshop.

Lahey, H (ed) 2000, *Information systems developers handbook: a road map for students*, University of Southern Queensland, Toowoomba, Queensland.

(This handbook is available on the USQ website at <http://www.usq.edu.au/faculty/business/departments/infosys/isdhandbook.htm>)

Morris-Murphy, LL 2003, *Oracle 9i: SQL with an introduction to PL/SQL*, Thomson Course Technology, Boston, Massachusetts.

Shah, N 2004, *Database systems using Oracle: a simplified guide to SQL and PL/SQL*, Pearson Education, Upper Saddle River, New Jersey.

(international edn)

Summers, J & Smith, B 2004, *Communication skills handbook: how to succeed in written and oral communication*, John Wiley & Sons, Milton, Queensland.

(revised & updated edition)

## REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

Casteel, J 2003, *Oracle 9i developer: PL/SQL programming*, Thomson Course Technology, Boston, Massachusetts.

Connolly, T & Begg, C 2004, *Database systems: a practical approach to design, implementation, and management*, 4th edn, Pearson Education, Harlow, UK.

Morrison, J & Morrisson, M 2003, *A guide to Oracle 9i*, Thomson Course Technology, Boston, Massachusetts.

Rob, P & Coronel, C 2004, *Database systems: design implementation and management*, 6th edn, Course Technology, Boston, Massachusetts.

Sunderraman, R 2004, *Oracle8 programming: a primer*, 2nd edn, Addison-Wesley, Reading, Massachusetts.

## STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Lectures	22.00
Practical Experience	34.00
Private Study	119.00

## ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
ASSIGNMENT	100.00	15.00	14 Oct 2005
PRACTICAL TESTS	100.00	15.00	17 Oct 2005 (see note 1)
EXAM PART A (MULTI-CHOICE)	20.00	14.00	END S2 (see note 2)
EXAM PART B (WRITTEN)	80.00	56.00	END S2

### NOTES

1. PLEASE NOTE: Practical tests will be held during the final week of the semester.
2. The examination is scheduled to be held in the end-of-semester examination period. Students will be advised of the official examination date for Exam (Parts A and B) after the timetable has been finalised. The total working time for Exam (Parts A and B) is 3 hours.

## IMPORTANT ASSESSMENT INFORMATION

### 1 Attendance requirements:

It is the students' responsibility to attend and participate appropriately in all activities (such as lectures, tutorials, laboratories and practical work) scheduled for them, and to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration.

- 2 Requirements for students to complete each assessment item satisfactorily:  
To complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available for each assessment item.
- 3 Penalties for late submission of required work:  
If students submit assignments after the due date without prior approval then a penalty of 5% of the total marks available for the assignment will apply for each working day late. The assignment is likely to be subject to processing delays.
- 4 Requirements for student to be awarded a passing grade in the course:  
To be assured of receiving a passing grade a student must submit all of the summative assessment items, achieve a total mark of at least 50% in Part A and Part B of the examination, and at least 50% of the available weighted marks for the summative assessment items.
- 5 Method used to combine assessment results to attain final grade:  
The final grades for students will be assigned on the basis of the weighted aggregate of the marks (or grades) obtained for each of the summative assessment items in the course.
- 6 Examination information:  
This is a closed examination. Candidates are allowed to bring only writing and drawing instruments into the examination. The examination consists of two parts. Part A is worth 20 marks and Part B is worth 80 marks.
- 7 Examination period when Deferred/Supplementary examinations will be held:  
Any Deferred or Supplementary examinations for this course will be held during the next examination period.
- 8 University Regulations:  
Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL <http://www.usq.edu.au/corporateservices/calendar/part5.htm>. Students should also read the Faculty of Business Guide to Policies and Procedures of the Faculty which can be found at the URL <http://www.usq.edu.au/handbook/current/buspolproc.html>.

## **ASSESSMENT NOTES**

- 1 Assignments: (i) The due date for an assignment is the date by which a student must despatch the assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the Examiner. (ii) If requested, students will be required to provide a copy of an assignment submitted for assessment purposes. This should be despatched to the USQ within 24 hours of receipt of a request being made. (iii) The Examiner may grant an extension of the due date of an assignment in extenuating circumstances. Students may apply for an extension before the due date or include an application with the submitted assignment after the due date. Such applications should be in writing and include supporting documentary evidence. The authority for granting extensions rests with the relevant Examiner. (iv) The Examiner will normally only accept assessments that have been written, typed or printed on paper-based media. (v) In the event that a due date for an assignment falls on a local public holiday in their area, such as a Show holiday, the due date for the assignment will be the next day. Students are to note on the assignment cover the date of the public holiday for the Examiner's convenience.

- 2 Course Weightings: Course weightings of topics should not be interpreted as applying to the number of marks allocated to questions testing those topics in an examination paper.
- 3 Referencing in Assignments: Unless otherwise directed by the Examiner, all written and oral assignments submitted by students must conform to the guidelines laid out in the 'Communication skills handbook: How to succeed in written and oral communication'. Any work not prepared in accordance with these guidelines may be subject to penalty or requirement for resubmission.
- 4 Make-up Work: Students who have undertaken all of the required assessments in a course but who have failed to meet some of the specified objectives of a course within the normally prescribed time may be awarded the temporary grade: IM (Incomplete - Make up). An IM grade will only be awarded when, in the opinion of the Examiner, a student will be able to achieve the remaining objectives of the course after a period of non-directed personal study.
- 5 Deferred Work: Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment or to sit for an examination at the scheduled time may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. One of the following temporary grades may be awarded: IDS (Incomplete - Deferred Examination); IDM (Incomplete Deferred Make-up); IDB (Incomplete - Both Deferred Examination and Deferred Make-up).
- 6 Appeals: Any appeal against the award of a grade in the course will be conducted in accordance with University Regulations. These Regulations are published in the University Handbook.

## **OTHER REQUIREMENTS**

- 1 Learning Resources: Prescribed text and materials (see above); prescribed reference materials (see above); printed Introductory Book\*, Study Book/s\*, and Book/s of Selected Readings\*; and course Website accessible via USQConnect. \*part of the study package available from the USQ Bookshop.
  - 2 E-mail and Internet Access: Students require access to e-mail and Internet access to USQConnect for this course. Students also require a PC and Internet access for a connection to the USQ Oracle server. The PC should have the following specifications: Pentium 4 or above; 8 GB free disk space; 512 MB of memory, although 256 MB may be sufficient.
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