



The University of Southern Queensland

Course specification

The current and official versions of the course specifications are available on the web at <http://www.usq.edu.au/coursespecification/current>.
Please consult the web for updates that may occur during the year.

Description: Advanced Web Data Management

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
CSC	8417	91250	2, 2009	ONC	1.00	Toowoomba

Academic group:	FOSCI
Academic org:	FOS003
Student contribution band:	2
ASCED code:	020199

STAFFING

Examiner: Stijn Dekeyser
Moderator: Hua Wang

REQUISITES

Pre-requisite: Students must be enrolled in one of the following Programs: BINH or GCAC or GCPC or GDAC or GDPC or MCOP or MPIT or MPCP

OTHER REQUISITES

Recommended pre-requisite: CSC3400

RATIONALE

While database systems were already very important to large organizations before the advent of the World Wide Web, the IT revolution of the last decade has made them indispensable. Advanced database features such as transaction support, query optimization, data distribution, semi-structured data management, and information retrieval have all received extended attention to better support data-intensive web-based applications.

SYNOPSIS

This course has two components. The research-oriented component introduces students to advanced web data management concepts such as transaction support, query optimization, data distribution, semi-structured data management, on-line analytical processing, data mining, information retrieval, and web search engine architectures. The practical component lets students gain experience applying some of the theoretical concepts in the context of a project.

OBJECTIVES

On completion of this course, students will be able to:

1. demonstrate a general understanding of a number of advanced database management issues. (Assign. 1, 2 & 3)

2. demonstrate an in-depth understanding of one specific topic of choice related to web data management. (Assign. 1 & 3)
3. develop database-driven dynamic web sites. (Assign. 2)

TOPICS

	Description	Weighting (%)
1.	Web-database integration techniques	20.00
2.	Transaction Management: transactions, concurrency control and recovery	10.00
3.	Query processing: optimization of Relational Algebra and SQL expressions	10.00
4.	Distributed Databases: concepts, functions, design, transactions, and query optimization in a DDBMS	10.00
5.	Semi-structured data and XML	10.00
6.	On-line analytical processing (OLAP)	10.00
7.	Data mining	10.00
8.	Information Retrieval: models and techniques	10.00
9.	Web Search: search engine techniques	10.00

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).

Connolly, T & Begg, C 2005, *Database systems, a practical approach to design, implementation and management*, 4th edn, Addison-Wesley, Boston.

(<http://www.booksites.net/connbegg/>)

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.

On-line lecture notes, tutorial material and resources at <http://www.sci.usq.edu.au/courses/csc8417>

Baeza-Yates, R & Ribiro-Neto, B 1999, *Modern information retrieval*, Addison-Wesley,

Silberschatz, A, Korth, HF & Sudarshan, S 2005, *Database system concepts*, 5th edn, McGraw-Hill, Boston.

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Assessments	50.00
Private Study	120.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg (%)	Due date
ASSIGNMENT 1	10.00	10.00	12 Aug 2009
ASSIGNMENT 2	100.00	45.00	26 Oct 2009
ASSIGNMENT 3	100.00	45.00	26 Oct 2009

IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:
There are no attendance requirements for this course. However, it is the students' responsibility 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 of the examiner then a penalty of 5% of the total marks gained by the student for the assignment may apply for each working day late up to ten working days at which time a mark of zero may be recorded. No assignments will be accepted after model answers have been posted.
- 4 Requirements for student to be awarded a passing grade in the course:
To be assured of receiving a passing grade a student must achieve at least 50% of the total weighted marks available for the course.
- 5 Method used to combine assessment results to attain final grade:
The final grades for students will be assigned on the basis of the aggregate of the weighted marks obtained for each of the summative assessment items in the course.
- 6 Examination information:
There is no examination in this course.
- 7 Examination period when Deferred/Supplementary examinations will be held:
There will be no Deferred or Supplementary examinations in this course.
- 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> or in the current USQ Handbook.

ASSESSMENT NOTES

- 9 Students must retain a copy of each item submitted for assessment. If requested, students will be required to provide a copy of assignments submitted for assessment purposes. Such copies should be despatched to USQ within 24 hours of receipt of a request being made.
- 10 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.
- 11 Students must retain a copy of each item submitted for assessment. This must be produced within 24 hours if required by the Examiner.
- 12 The examiner of a course may grant an extension of the due date of an assignment in extenuating circumstances.
- 13 The Faculty will NOT accept submission of assignments by facsimile.
- 14 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.
- 15 Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment, may apply to defer the assessment. Such a request must be accompanied by appropriate supporting documentation. The temporary grade IDM (Incomplete Deferred Make-up) will be awarded to such students until the deferred assignment has been assessed.
- 16 Students will require access to e-mail and internet access to UConnect for this course.