



Web Database Design and
Development

CCA-2-WDD

myweb.lsbu.ac.uk/~aitbraa/WDDD/WDDD.html

Faculty of Business

2009 - 2010

Level 5

become what you want to be

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1. UNIT DETAILS

Unit Title:	Web Database Design and Development
Unit Level:	5
Unit Reference Number:	CCA-2-WDD
Credit Value:	1 UNIT (15 CAT points)
Student Study Hours:	150
Contact Hours:	52
Private Study Hours:	98
Pre-requisite Learning (If applicable):	
Co-requisite Units (If applicable):	
Course(s):	BSc/HND in E-BIT & Internet Computing
Year and Semester	2009 – 2010, Semester 2
Unit Coordinator:	Aziz Ait-Braham
UC Contact Details (Tel, Email, Room)	7427, aziz@lsbu, N311
Teaching Team & Contact Details (If applicable):	
Subject Area:	Informatics
Summary of Assessment Method:	Exam: 60%, CW: 40%

2. SHORT DESCRIPTION

This unit covers the fundamentals of the database field. The subject of the database field is how to use computers to store and manage data, usually large quantities of data. This is, first and foremost, an introductory unit to database design and management. It covers issues such as that of database management, data modelling, relational database theory, and the database query language SQL (Structured Query Language). In addition, the unit will introduce the means and tools of accessing databases from the web.

3. AIMS OF THE UNIT

- To understand database concepts and database systems components
- To learn data modelling techniques and acquire the skills necessary to transform data models into relational database designs (such techniques and tools include Entity-Relationship modelling and normalisation)
- To learn data construction and extraction techniques (using, mainly, SQL - the standard means by which applications access and update information)
- To introduce students to web-based databases and their graphical interfaces

4. LEARNING OUTCOMES

4.1 Knowledge and Understanding

Be able to:

- Develop an appreciation of the role of databases in organisations, in general.
- Understand database concepts and the nature of database management systems (DBMSs), including their structure and design.

- Understand development of database applications and implementation of database concepts.
- Understand a broad range of data management issues including data integrity and security.
- Explore the components, design considerations, user consideration and GUI design and evaluation of web-based databases.

4.2 Intellectual Skills

Be able to:

- Express and put forward ideas about various scenarios.
- Critically evaluate, and select from, a number of solutions

4.3 Practical Skills

Be able to:

- Become familiar with the data modelling concepts commonly used in database design.
- Create and modify relational databases, and pose complex queries of relational databases.
- Demonstrate the ability to implement database applications which could be accessed interactively from the internet.

4.4 Transferable Skills

Be able to:

- Organise and manage own time.
- Work independently
- Work with others

5. ASSESSMENT OF THE UNIT

The unit will be assessed through an exam (60%) and coursework (40%). The coursework will be a mixture of in-class phase tests and a practical assignment. The practical assignment will, in all probability, be a group based.

6. FEEDBACK

Feedback will normally be given to students 15 working days after undergoing an assessment activity or the submission of an assignment.

7. INTRODUCTION TO STUDYING THE UNIT

7.1 Overview of the Main Content

- An Introduction to databases and the features of a relational database product
- Data analysis and data modelling
- The relational model and relational languages
- SQL
- Web databases

7.2 Overview of Types of Classes

The unit will be a mixture of lectures, classroom discussions, and work in the laboratories. The students are expected to read through the texts, to participate in the classroom discussions, and to work through the assigned exercises and activities.

7.3 Importance of Student Self-Managed Learning Time

The unit has been developed for level 2 students. A high level of maturity, both in attitude and comprehension, is assumed of the students, who should be able to work independently. Students are required to contribute to their own learning and the learning of others by participating in class discussions.

7.4 Employability

Data and databases are the blood of every organisation, enterprise or business. Acquiring skills and being able to demonstrate competence in the area of databases therefore clearly improves a student's chances of gaining and retaining good employment opportunities.

8. THE PROGRAMME OF TEACHING, LEARNING AND ASSESSMENT

Lecture Topic	Week	Tutorial Activities
Introduction to the Unit	1	No Tutorial/Lab Session
Introduction to Databases and the Relational Model	2	Assignment Specifications Hand Out
Entity Relationship Modelling	3	DBs and RM
Relational Database Design	4	ER Modelling
Structured Query Language (SQL)	5	Relational Database Design
Phase Test 1	6	SQL
SQL (cont'd)	7	SQL
SQL (cont'd)	8	SQL
Database Integrity, Security & Indexes	9	SQL
Phase Test 2	10	Database Integrity & Security
Web Database Connectivity 1	11	PHP & MySQL
Web Database Connectivity 2	12	Open Lab Session
Assessment	13	Assessment

9. STUDENT EVALUATION

There was only one student on it last year and he seemed to have enjoyed it! As ever, students are always encouraged to give feedback on what is covered throughout the semester, and if anything could be altered even during the semester, then that would also be done.

10. LEARNING RESOURCES

10.1 Core Materials

Connolly, T. & Begg, C.

Database Systems: A Practical Approach to Design, Implementation and Management, 5e

Addison-Wesley, 2010

10.2 Optional Materials

Elmasri, R. & Navathe, S.B.

Fundamentals of Database Systems, 5e

Addison-Wesley, 2007.

Kroenke, D.M.

Database Processing: Fundamentals, Design & Implementation, International Ed.

Pearson / Prentice Hall, 2006.

Riccardi, G.

Database Management with Web Site Development Applications

Addison-Wesley, 2003.

Welling, L. & Thompson, L.

PHP and MySQL Web Development, 4e.

Addison-Wesley, 2009.

NOTES

Communication: The principle means of communication with students on this unit will be through announcements during lectures or posted on the unit's web pages. So it is important that you read and keep visiting the unit's web pages regularly.