



MONASH University

FIT3128
Database Systems Design

Unit guide

Summer semester, 2008

Last updated : 21 Nov 2008

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FIT3128 Database Systems Design - Summer semester , 2008

Unit leader :

Flora Dilys Salim

Lecturer(s) :

Caulfield

- Ms Flora Salim

Tutors(s) :

Caulfield

- Manoj Kathpalia
- Oshadi Alahakoon
- Wanita Sherchan
- Chenzhong Yu
- Flora Salim

Introduction

Welcome to FIT3128 Database Systems Design for summer semester, 2008. This unit, CSE3180, is an introductory unit on Database Technology designed for non-FIT students who have some technical background. The unit is designed to give you an understanding of relational database design and implementation. Both theoretical and practical aspects will be covered and assessed.

Unit synopsis

This unit is designed to introduce students to the fundamental concepts necessary for the analysis, design, use and implementation of business information systems using relational database management systems. The main topics covered include requirements elicitation, systems analysis and design informed by a lifecycle based methodology, motivation for the database approach to managing information, conceptual modelling, coverage of logical process and data models, and the use of SQL and other facilities provided by database management systems.

Learning outcomes

At the conclusion of the unit the students will have the ability to communicate requirements for business functionality in terms of data required, management of that data and its processing. Students should be able to competently understand and contribute to the design and implementation of databases in the business environment. They will have sufficient skills in SQL to be able to construct test data and to develop and execute queries on a database. They will have communication and management skills to work co-operatively in a team.

Workload

This is an on-campus unit, therefore all students are expected to attend lectures and tutorials.

There are three x 2 hr lecture per week and three x 2 hr tutorial or laboratory session per week.

Personal study required are as follows:

- Assignment work requiring a computer for word processing software (either at home or at the lab): Approx 12 - 15 hrs in week 1, approx 6 - 8 hrs in week 2.
- Assignment work requiring lab access for Oracle: Approx 12 - 14 hrs in week 2
- Self-study (not requiring computer use) based on unit materials and extra resources e.g. books borrowed from library: Approx 2-4 hrs per week in weeks 1 and 2, more if necessary
- Exam preparation (may require some lab access for Oracle SQL practice): Approx 25-30 hours of study during week 3 and study break
- Consultation with staff as necessary

Please note that the above times are estimates, so be prepared to spend more time if you are falling behind. Also, it is generally helpful to take the time to discuss your progress on assignments and exam prep with staff during their consultation time(s) as well discussing any particular points that may be unclear.

Unit relationships

Prerequisites

24 points of second level study.

Relationships

Prohibitions: FIT1004, FIT9003, CSE2132, CSE3180, CSE9002, BUS3112, BUS4112, IMS9001, IMS9003, GCO9804, BUS9003, CSE4430, BUS5071. This unit is not available to any student enrolled in an FIT degree.

Continuous improvement

Monash is committed to 'Excellence in education' (Monash Directions 2025 - <http://www.monash.edu.au/about/monash-directions/directions.html>) and strives for the highest possible quality in teaching and learning.

To monitor how successful we are in providing quality teaching and learning Monash regularly seeks feedback from students, employers and staff. One of the key formal ways students have to provide feedback is through Unit Evaluation Surveys. The University's Unit Evaluation policy (<http://www.policy.monash.edu/policy-bank/academic/education/quality/unit-evaluation-policy.html>) requires that every unit offered is evaluated each year. Students are strongly encouraged to complete the surveys as they are an important avenue for students to "have their say". The feedback is anonymous and provides the Faculty with evidence of aspects that students are satisfied and areas for improvement.

Faculties have the option of administering the Unit Evaluation survey online through the my.monash portal or in class. Lecturers will inform students of the method being used for this unit towards the end of the semester.

Student Evaluations

If you wish to view how previous students rated this unit, please go to <http://www.monash.edu.au/unit-evaluation-reports/>

Unit staff - contact details

Unit leader

Flora Dilys Salim

Contact hours : Friday 4 - 6 pm

Lecturer(s) :

Ms Flora Salim

Contact hours : Appointment via email

Tutor(s) :

Mr Chenzhong Yu

Ms Flora Salim

Mr Manoj Kathpalia

Ms Oshadi Alahakoon

Ms Wanita Sherchan

Additional communication information

In addition to the staff contact details included here, teaching staff for the unit will regularly monitor and provide feedback on the various discussion forums hosted on the unit's MUSO site. Students are encouraged to post questions, comments and answers to these forums regularly.

Teaching and learning method

Teaching and learning in the unit involves:

- Lectures
- Tutorials
- Discussion forums
- Personal study between classes.

Tutorial allocation

Students should register for tutorials/laboratories using Allocate+. You should attend your laboratory session as registered in Allocate+.

Communication, participation and feedback

Monash aims to provide a learning environment in which students receive a range of ongoing feedback throughout their studies. You will receive feedback on your work and progress in this unit. This may take the form of group feedback, individual feedback, peer feedback, self-comparison, verbal and written feedback, discussions (on line and in class) as well as more formal feedback related to assignment marks and grades. You are encouraged to draw on a variety of feedback to enhance your learning.

It is essential that you take action immediately if you realise that you have a problem that is affecting your study. Semesters are short, so we can help you best if you let us know as soon as problems arise. Regardless of whether the problem is related directly to your progress in the unit, if it is likely to interfere with your progress you should discuss it with your lecturer or a Community Service counsellor as soon as possible.

Unit Schedule

Week	Topic	Key dates
1	Database (DB) Intro and the Relational Model, Conceptual DB Design, Logical DB Design I	
2	Logical DB Design II, SQL I, SQL II	Assignment 1 Due: Monday, 1st Dec 08, 12 noon
3	SQL III, Physical DB Design, DB Admin and Advanced Topics	Assignment 2 Due: Friday, 12th Dec 08, 12 noon
4	Exam Period (No classes)	Exam: Thursday, 18th Dec 2008, 9.30 am
Mid semester break		

Unit Resources

Prescribed text(s) and readings

No text required.

Recommended text(s) and readings

The following texts will be useful, but not mandatory, for studying the unit:

Jeffrey A.Hoffer, Mary B. Prescott, Fred R. McFadden, *Modern database management*. 2007. Pearson/Prentice Hall, Upper Saddle River, N.J.

Note: Older editions for the book also contain all the material necessary.

Required software and/or hardware

A drawing package such as Microsoft Visio is strongly recommended; a copy of which can be obtained from the Faculty's IT service desk. You will need access to a Windows XP-based machine, and will also find it useful to install a copy of Microsoft SQL Server 2005 (also available from the Faculty's IT service desk).

Gershwin can also be used for drawing database conceptual diagram. Gershwin is installed in the computer labs.

You will need access to the university labs to use an Oracle client for assignment work and exam preparation from week 2 onwards.

You will also need a web browser and Microsoft Word.

Information about how to obtain the relevant database software from Microsoft to allow connection to Monash's database server will also be provided via MUSO.

Study resources

Study resources we will provide for your study are:

Study resources we will provide for your study are:

Please note that all materials below will only be provided in electronic form, you will have to print them yourself.

- Lecture notes for each module
- Tutorial exercises for each module
- Partial solutions/hints to tutorial exercises released a few days later
- Assignment specifications
- A sample and past exam (complete solutions **not** provided)
- Online discussion forums
- The unit web site, accessed via MUSO.
- Assignment cover sheets
- This unit guide

Library access

The Monash University Library site contains details about borrowing rights and catalogue searching. To learn more about the library and the various resources available, please go to <http://www.lib.monash.edu.au>.

The Educational Library and Media Resources (LMR) is also a very resourceful place to visit at <http://www.education.monash.edu.au/library/>

Monash University Studies Online (MUSO)

- All unit and lecture materials are available through the MUSO (Monash University Studies Online) site. You can access MUSO via the Monash.Portal: <http://my.monash.edu.au>

Under “Online Systems” click the MUSO hyperlink

In order for your MUSO unit(s) to function correctly, your computer needs to be set up and certain programs may need to be installed such as a compatible Java version (eg version 1.5.0). This can easily be done by going to <http://www.monash.edu.au/muso/support/students/browserset.html> to update the relevant software.

You can contact MUSO Support by:

Jobdesk: http://jobdesk.monash.edu.au/login/index.cfm?jobdesk_id=14

Email: muso.support@calt.monash.edu.au

Phone: (+61 3) 9903-1268

Operational hours (Monday – Thursday) – local time

Australia: 8 am to 10 pm (8pm Non Teaching period)

Malaysia: 6 am to 8 pm (6 pm Non Teaching period)

South Africa: 11pm to 1pm (11 am Non Teaching period)

Operational hours (Friday) – local time

Australia: 8 am to 8 pm

Malaysia: 6 am to 6 pm

South Africa: 11pm to 11 am

Operational hours (Saturday-Sunday) – local time (Teaching and Exam Period Only)

Australia: 1 pm to 5 pm

Malaysia: 11 am to 3 pm

South Africa: 4 am to 8 am

Further information can be obtained from the following site <http://www.monash.edu.au/muso/support/index.html>

Assessment

Unit assessment policy

The unit is assessed with two assignments and a three hour closed book examination. To pass the unit you must:

- score at least 40% across the assignments **and**
- score at least 40% on the exam **and**
- score at least 50% overall

If a student does not achieve 40% or more in the unit examination or the unit non-examination total assessment, and the total mark for the unit is greater than 44% then a mark of 44-N will be recorded for the unit.

Assignment tasks

• Assignment Task

Title : Assignment 1 - Database Design

Description :

This is a conceptual and logical database design assignment. You will be required to construct a conceptual model using ER-Diagrams for a given scenario. A detailed specification will be released during the first week of teaching and discussed in the lecture. Please follow the announcements made on the official unit website for further information, discussion and hints on the assignment.

Weighting : 20%

Criteria for assessment :

Assignment 1 will be marked according to the following criteria:

- ◆ Quality of design solution
- ◆ Correctness of the modelling technique employed (entity-relationship modelling)
- ◆ Correctness and quality of the data dictionary
- ◆ Correctness of the logical design
- ◆ Quality answers to theoretical questions

Due date : Monday, 1st December 2008, 12 noon

• Assignment Task

Title : Assignment 2 - Normalisation and SQL

Description :

You will write a number of SQL queries and commands. You will be required to normalise and implement a relational schema (set of tables) in Oracle using a command line interface. In addition, you will be asked to construct SQL queries that extract data from the implemented database. A detailed specification will be released during the first week of teaching and discussed in the lecture. Please follow the announcements made on the official unit website for further information, discussion and hints on the assignment.

Weighting : 20%

Criteria for assessment :

For normalisation, you will be assessed on: your knowledge of the various normal forms; the ability to correctly transform a relation to successive higher normal forms; correct identification of functional dependencies arising from business rules; judgment exercised in making any required assumptions. For implementation, you will be assessed on syntactical and logical correctness but not on efficiency or elegance.

Due date : Friday, 12th December 2008, 12 noon

Examinations

• Examination 1

Weighting : 60%

Length : 3 hours

Type (open/closed book) : closed book

Remarks (optional - leave blank for none) :

The exam will test your problem solving abilities rather than your memory. Therefore you will not be able to pass if you wait until the last minute to prepare. Please ensure that you keep up to date with all lectures, tutorials and assignment works in order to develop the necessary understanding and problem solving skills so that you can do well on the exam.

Sample exam materials will be provided that will illustrate the type of questions you can reasonably expect on the exam, however **you will not know in advance what questions will be asked.**

Assignment submission

Submission details will be provided with each assignment specification.

Assignment 1 will be submitted by **paper** submission.

Assignment 2 will require both a **paper** and electronic submission.

Details will be made available along with the detailed assignment specifications.

Assignment coversheets

All assignments must be accompanied by a signed coversheet, available from <http://infotech.monash.edu.au/resources/student/assignments/>

University and Faculty policy on assessment

Due dates and extensions

The due dates for the submission of assignments are given in the previous section. Please make every effort to submit work by the due dates. It is your responsibility to structure your study program around assignment deadlines, family, work and other commitments. Factors such as normal work pressures, vacations, etc. are seldom regarded as appropriate reasons for granting extensions. Students are advised to NOT assume that granting of an extension is a matter of course.

The due dates for the submission of assignments are given in the previous section. Please make every effort to submit work by the due dates. It is your responsibility to structure your study program around assignment deadlines, family, work and other commitments. Factors such as normal work pressures, vacations, etc. are seldom regarded as appropriate reasons for granting extensions. Students are advised NOT to assume that granting of an extension is a matter of course. Requests for extensions must be made to the unit lecturer at least two days before the due date. You will be asked to forward original medical certificates in cases of illness, and may be asked to provide other forms of documentation where necessary. A copy of the email or other written communication of an extension must be attached to the assignment submission.

Late assignment

Assignments received after the due time before 5pm on the same day will incur a penalty of up to **20%**. Each successive day will incur a **further 20%** penalty. Assignments received more than three days late will not be accepted. This policy is strict because comments or guidance will be given on assignments as they are returned, and sample solutions may also be published and distributed, after assignment marking or with the returned assignment. Further, the extremely short timeline of the unit means that staff has less time to provide feedback and prepare solutions. Further, if you fall behind on an assignment, it may be extremely difficult for you to catch up given the intensive nature and short duration of the unit.

Return dates

Students can expect assignments to be returned within two weeks of the submission date or after receipt, whichever is later.

Assessment for the unit as a whole is in accordance with the provisions of the Monash University Education Policy at <http://www.policy.monash.edu/policy-bank/academic/education/assessment/>

We will aim to have assignment results made available to you within a week after assignment receipt.

Assessment for the unit as a whole is in accordance with the provisions of the Monash University Education Policy at <http://www.policy.monash.edu/policy-bank/academic/education/assessment/>

Plagiarism, cheating and collusion

Plagiarism and cheating are regarded as very serious offences. In cases where cheating has been confirmed, students have been severely penalised, from losing all marks for an assignment, to facing disciplinary action at the Faculty level. While we would wish that all our students adhere to sound ethical conduct and honesty, I will ask you to acquaint yourself with Student Rights and Responsibilities (<http://www.infotech.monash.edu.au/about/committees-groups/facboard/policies/studrights.html>) and the Faculty regulations that apply to students detected cheating as these will be applied in all detected cases.

In this University, cheating means seeking to obtain an unfair advantage in any examination or any other written or practical work to be submitted or completed by a student for assessment. It includes the use, or attempted use, of any means to gain an unfair advantage for any assessable work in the unit, where the means is contrary to the instructions for such work.

When you submit an individual assessment item, such as a program, a report, an essay, assignment or other piece of work, under your name you are understood to be stating that this is your own work. If a submission is identical with, or similar to, someone else's work, an assumption of cheating may arise. If you are planning on working with another student, it is acceptable to undertake research together, and discuss problems, but it is not acceptable to jointly develop or share solutions unless this is specified by your lecturer.

Intentionally providing students with your solutions to assignments is classified as "assisting to cheat" and students who do this may be subject to disciplinary action. You should take reasonable care that your solution is not accidentally or deliberately obtained by other students. For example, do not leave copies of your work in progress on the hard drives of shared computers, and do not show your work to other students. If you believe this may have happened, please be sure to contact your lecturer as soon as possible.

Cheating also includes taking into an examination any material contrary to the regulations, including any bilingual dictionary, whether or not with the intention of using it to obtain an advantage.

Plagiarism involves the false representation of another person's ideas, or findings, as your own by either copying material or paraphrasing without citing sources. It is both professional and ethical to reference clearly the ideas and information that you have used from another writer. If the source is not identified, then you have plagiarised work of the other author. Plagiarism is a form of dishonesty that is insulting to the reader and grossly unfair to your student colleagues.

Register of counselling about plagiarism

The university requires faculties to keep a simple and confidential register to record counselling to students about plagiarism (e.g. warnings). The register is accessible to Associate Deans Teaching (or nominees) and, where requested, students concerned have access to their own details in the register. The register is to serve as a record of counselling about the nature of plagiarism, not as a record of allegations; and no provision of appeals in relation to the register is necessary or applicable.

Non-discriminatory language

The Faculty of Information Technology is committed to the use of non-discriminatory language in all forms of communication. Discriminatory language is that which refers in abusive terms to gender, race, age, sexual orientation, citizenship or nationality, ethnic or language background, physical or mental ability, or political or religious views, or which stereotypes groups in an adverse manner. This is not meant to preclude or inhibit legitimate academic debate on any issue; however, the language used in such debate should be non-discriminatory and sensitive to these matters. It is important to avoid the use of discriminatory language in your communications and written work. The most common form of discriminatory language in academic work tends to be in the area of gender inclusiveness. You are, therefore, requested to check for this and to ensure your work and communications are non-discriminatory in all respects.

Students with disabilities

Students with disabilities that may disadvantage them in assessment should seek advice from one of the following before completing assessment tasks and examinations:

- Faculty of Information Technology Student Service staff, and / or
- your Unit Coordinator, or

- Disabilities Liaison Unit

Deferred assessment and special consideration

Deferred assessment (not to be confused with an extension for submission of an assignment) may be granted in cases of extenuating personal circumstances such as serious personal illness or bereavement. Information and forms for Special Consideration and deferred assessment applications are available at <http://www.monash.edu.au/exams/special-consideration.html>. Contact the Faculty's Student Services staff at your campus for further information and advice.