



COMP6350

Database Systems

Session 2, Special circumstance 2020

Department of Computing

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Notice

As part of [Phase 3 of our return to campus plan](#), most units will now run tutorials, seminars and other small group learning activities on campus for the second half-year, while keeping an online version available for those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face and online activities for your unit, please go to [timetable viewer](#). To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

General Information

Unit convenor and teaching staff

Convenor and Lecturer

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Credit points 10
Prerequisites
Corequisites
Co-badged status Co-badged with COMP2350.
Unit description This unit provides an in-depth study of modern database technology and its dominant role in developing and maintaining enterprise information systems. The aim is to teach students how to program database applications. The emphasis is placed on business applications, using Structured Query Language (SQL) as an interactive and a programmatic language, on principles of the relational-database model, and on fundamental components of a client-server database-management system. Practical work involves the use of a commercial database-management system together with programming tools.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

On successful completion of this unit, you will be able to:

- ULO1:** Demonstrate understanding of the basic concepts that underlie modern database management systems.
- ULO2:** Design and develop small, functional database applications using modern database design methods.
- ULO3:** Develop skills in using a industrial-strength database tools and interactive development environments for building databases.
- ULO4:** Complete different database programming tasks to specification using SQL

General Assessment Information

Assessment Tasks Submission/Completion Process

The assessments of this unit consist of four online quizzes, three assignments and a final exam. The solutions to the three assignments should be submitted via iLearn by the due date. The quizzes will be released and submitted via iLearn. The final examination will be conducted in the form and date/ time to be announced later in the semester.

Late Submission Policy

In general, no extensions on assignments will be granted without an approved application for Special Consideration. There will be a deduction of 10% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late. For example, 25 hours late in submission for an assignment worth 10 marks – 20% penalty or 2 marks deducted from the total. No submission will be accepted after solutions have been posted.

Assessment Standards

COMP6350 will be assessed and graded according to the University assessment and grading policies.

The following general standards of achievement will be used to assess each of the assessment tasks with respect to the letter grades.

Pass: Can demonstrate a broad knowledge of database concepts but with limited understanding. Can design and develop functional database with documentation. Is familiar with tools and interactive development environments, and comfortable with database programming.

Credit/Distinction: As for Pass plus: Exhibits breadth and depth of understanding of concepts. Can demonstrate critical analysis skills in fundamental database concepts. Able to design and develop functional and highly maintainable database, with documentation. Very familiar with tools and interactive development environments with good ability to solve database problems. Very familiar with database programming and quite able to implement solutions to database problems.

High Distinction: As for Credit/Distinction plus: Is aware of the context in which the concepts are developed and their limitations. Has demonstrated critical analysis skills in fundamental database concepts who also has exceptional analytical and critical thinking capability. Able to design and develop functional and highly maintainable database, with documentation and familiarity with tools and interactive development environments, and has exceptional ability to solve challenging database problems. Very familiar with tools and interactive development environments, and has exceptional ability to solve challenging database problems. Has exceptional database programming skills and able to implement maintainable solutions to challenging database problems.

Assessment Process

These assessment standards will be used to give a numeric mark to each assessment submission during marking. The mark will correspond to an appropriate letter grade when relevantly weighted. The final mark for the unit will be calculated by combining the marks for all assessment tasks according to the percentage weightings shown in the assessment summary.

Supplementary Exam

In general, if you receive Special Consideration for the final exam, a supplementary exam will be scheduled after the normal exam period, following the release of marks. By making a special consideration application for the final exam you are declaring yourself available for a resit during

the supplementary examination period and will not be eligible for a second special consideration approval based on pre-existing commitments. Please ensure you are familiar with the policy prior to submitting an application. Approved applicants will receive an individual notification one week prior to the exam with the exact date and time of their supplementary examination.

If you receive [Special Consideration](#) for any quiz, you may be offered an aggregated/average mark in line with the special consideration policy. Please ensure you are familiar with the policy prior to submitting an application.

Assessment Tasks

Name	Weighting	Hurdle	Due
Assignment 1	10%	No	Week 4
Assignment 2	10%	No	Week 8
Assignment 3	10%	No	Week 12
Online Quizzes	20%	No	Four quizzes; on Weeks 3, 6, 9, and 12
Final Examination	50%	No	TBA

Assignment 1

Assessment Type [1](#): Modelling task

Indicative Time on Task [2](#): 10 hours

Due: **Week 4**

Weighting: **10%**

Assignment 1 will focus on conceptual modelling and logical design of databases.

On successful completion you will be able to:

- Demonstrate understanding of the basic concepts that underlie modern database management systems.
- Develop skills in using a industrial-strength database tools and interactive development environments for building databases.

Assignment 2

Assessment Type [1](#): Design Implementation

Indicative Time on Task [2](#): 10 hours

Due: **Week 8**

Weighting: **10%**

Assignment 2 will assess students' ability to implement a relational database as well as querying that database.

On successful completion you will be able to:

- Demonstrate understanding of the basic concepts that underlie modern database management systems.
- Design and develop small, functional database applications using modern database design methods.
- Develop skills in using a industrial-strength database tools and interactive development environments for building databases.
- Complete different database programming tasks to specification using SQL

Assignment 3

Assessment Type ¹: Programming Task

Indicative Time on Task ²: 15 hours

Due: **Week 12**

Weighting: **10%**

Assignment 3 will assess students' ability to enhance databases through procedural programming.

On successful completion you will be able to:

- Demonstrate understanding of the basic concepts that underlie modern database management systems.
- Design and develop small, functional database applications using modern database design methods.
- Develop skills in using a industrial-strength database tools and interactive development environments for building databases.
- Complete different database programming tasks to specification using SQL

Online Quizzes

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 10 hours

Due: **Four quizzes; on Weeks 3, 6, 9, and 12**

Weighting: **20%**

There will be many quizzes over the semester to encourage engagement with and understanding of the material by the students.

On successful completion you will be able to:

- Demonstrate understanding of the basic concepts that underlie modern database management systems.
- Design and develop small, functional database applications using modern database design methods.
- Complete different database programming tasks to specification using SQL

Final Examination

Assessment Type ¹: Examination

Indicative Time on Task ²: 35 hours

Due: **TBA**

Weighting: **50%**

The Final examination will assess students' understanding of the fundamental concepts behind database management systems, and their skills in database programming and development.

On successful completion you will be able to:

- Demonstrate understanding of the basic concepts that underlie modern database management systems.
- Design and develop small, functional database applications using modern database design methods.
- Complete different database programming tasks to specification using SQL

¹ If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

² Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

Classes

Each week during the semester you should set aside three hours for lectures (2 hours for lectures and 1 hour for workshopping), one hour for a tutorial class and one hour for a practical session. For details of days and times consult the timetables webpage at <https://timetables.mq.edu.au/2020/>. More specific information will be announced via the unit webpage on iLearn. Students are urged to actively participate in the tutorials; this helps enhancing the understanding by students.

Note that practicals and tutorials commence in week 2. You should have selected a practical session and a tutorial session during enrolment. You should attend the sessions you are enrolled in.

Required and Recommended Texts and/or Materials

Textbook

The textbook listed below cover much of the required material that will be used in preparation of lectures and/or assignments and/or practicals.

- Thomas Connolly and Carolyn Begg. *Database Systems. A Practical Approach to Design, Implementation, and Management*, Sixth Edition, Pearson, 2015.

For some parts of learning, other necessary material will be made available on the unit iLearn site.

Unit Webpage and Technology Used and Required

Digital recordings of lectures will be available on iLearn via tools such as Echo360 and Zoom.

Websites

The web page for this unit can be found at <http://ilearn.mq.edu.au>

Technology

In this unit you will be exposed to the following technology and tools

- MySQL - Database Management System
- MySQL Workbench - Data Modeling Software Tool

Discussion Boards

The unit will make use of discussion boards hosted within iLearn. Please post questions there, they will be monitored by the staff on the unit regularly.

Unit Schedule

1	Introduction to Databases: Relational model	Connolly & Begg, Chapters 1,2,4 + Class Notes
2	Database modeling (ER modeling, EER modeling)	Connolly & Begg, Chapters 12-13
3	Conceptual & Logical Database design	Connolly & Begg, Chapters 16-17
4-6	Data Manipulation and Database Normalisation	Connolly & Begg, Chapters 6, 14-15
7	Relational Algebra	Connolly & Begg, Chapter 5
Recess		
8-9	Database Programming	Connolly & Begg, Chapter 8
10	Transaction management	Connolly & Begg, Chapter 22
11	Concurrency control, Recovery	Connolly & Begg, Chapter 22 (and Lecturer provided)
12	Data Storage and Management	(Lecturer Provided)
13	Revision	Lecturer Provided

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)

- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/student-policy-gateway) (<https://students.mq.edu.au/support/study/student-policy-gateway>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/student-conduct>

Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide

appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

Changes from Previous Offering

There has been major change in the assessments. In the 2019 offering of ITEC624 (the previous equivalent unit), there were two assignments and one mid-term test with weights of 25%, 15%, and 10% (apart from the Final Exam with weight 50%). In the current offering, there are instead three assignments each with weight 10%, four online quizzes each with weight 5% (and the Final Exam with weight 50%). This was done to keep students more engaged, and reduce the load from the 1st assignment which was too big.

It is also planned that the first two scheduled hours of lecturing each week is devoted to lecturing while the third hour is used for workshopping (problem solving/ discussion) related to content covered earlier in the week.