# INFS1200 — Introduction to Information Systems

## Table of contents


Staff . . . 1
Textbook . . . 2
Learning outcomes . . . 2
The five modules . . . 2
Course learning activities . . . 2
Assessment . . . 4
Tentative weekly plan . . . 5
Academic integrity and generative AI . . . 6
Lectures . . . 7
Reference / concept notes . . . 7
Exercises . . . 9


Semester 1, 2026 — teaching weeks run from 23/02/2026 (week 1 on the semester plan) to the week beginning 25/05/2026, with the exam period after it. St Lucia, in person. Information systems analysis, design and implementation, relational database technology, data modelling, data querying using SQL, and building a small-scale information system using a relational DBMS.

Lectures run **Friday 3–5pm**. About 370 students are enrolled in INFS1200, and the course runs alongside INFS7900 — the Ed Discussion board and the in-class polls are both labelled INFS1200/INFS7900.

### Staff


- **A/Prof Archie Chapman** — course coordinator & lecturer, archie.chapman@uq.edu.au
- **A/Prof Hassan Khosravi** — lecturer, h.khosravi@uq.edu.au
- Course admin enquiries: INFS1200@eecs.uq.edu.au

- Tutors: Allan Chuang, Samiha Prima, Ian Pinto, Kai Li Lim, Eden Mehr, Kate Duan, Daniel Goh, James Fearon, Daniel Camp

## Textbook

Elmasri & Navathe, *Fundamentals of Database Systems* (7th edition, Global Edition) — available online via the UQ Library. Chapters 1 and 2 cover Module 0.

## Learning outcomes

- **LO1** Extract information systems requirements to create basic conceptual models
- **LO2** Map basic conceptual data models to relational database schema
- **LO3** Express natural language queries using the SQL language
- **LO4** Reason with the logical foundation of the relational data model and the fundamental principles of correct relational database design
- **LO5** Explain key security concepts related to database control measures and SQL injection
- **LO6** Construct a small-scale information system in a relational database management system

## The five modules

Module 0 (introduction and DBMS fundamentals, dbms-fundamentals[1]) sits in front of all of these and is not in the figure.

## Course learning activities

- **Lectures** — weeks 1-13, introduce concepts and techniques in information systems analysis, combined with a series of in-class formative exercises; the exercises are run through **UQ Poll**.
- **Applied classes** — weeks 2-13, practice the techniques introduced in lectures.
- **Practicals** — weeks 2-13, hands-on experience implementing small-scale databases.
- **Ed Discussion** — the course discussion board, also used for per-lecture Q&A megathreads.
- **RiPPLE personalised learning activities** — a UQ-developed learner-sourcing platform: students *create* study resources, *moderate* peers' resources, and *practise* against an AI-generated study plan based on their own mastery level.

[1] courses/infs1200/dbms-fundamentals.pdf

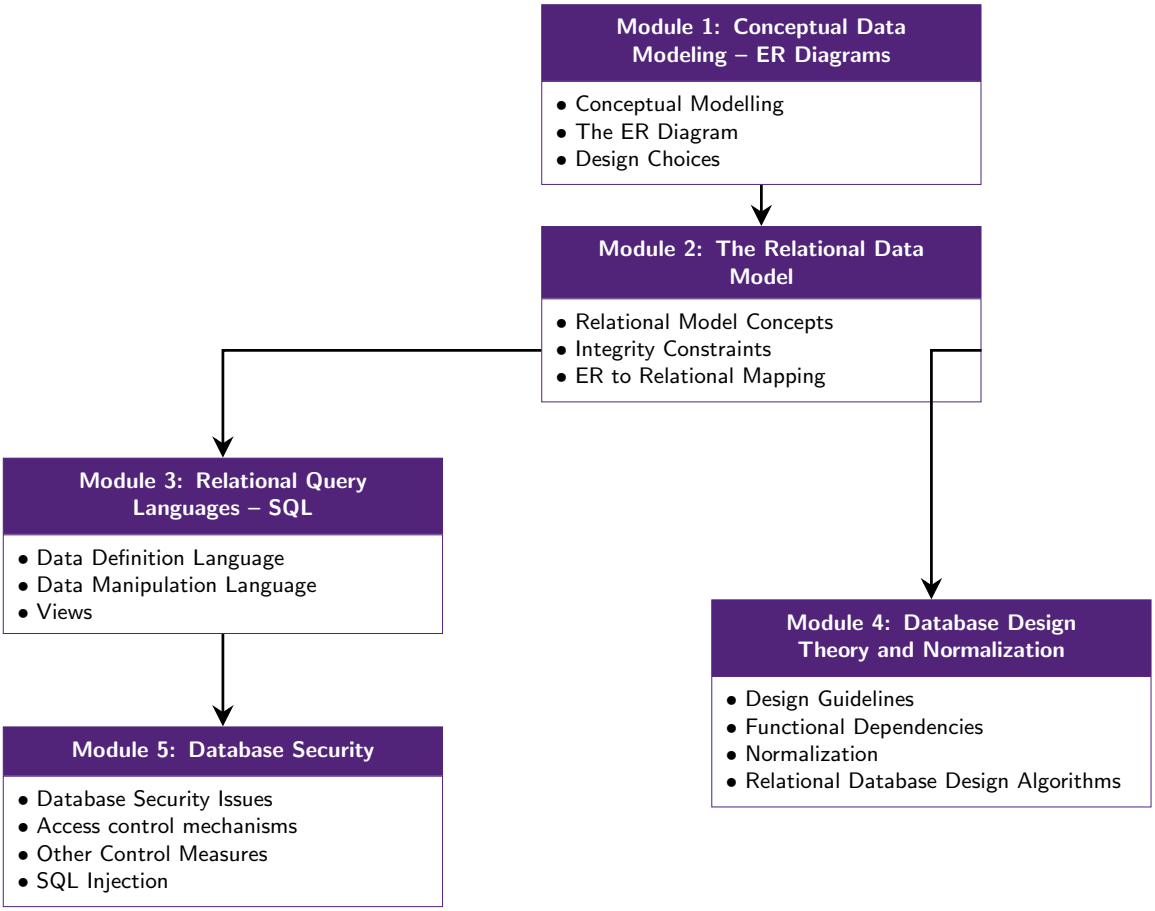


Figure 1: How the five content modules depend on one another. There are exactly four dependencies: Module 1 into Module 2, Module 2 into both Module 3 and Module 4, and Module 3 into Module 5. So Module 2 forks — SQL on one branch, carrying on into database security, and design theory and normalisation on the other — and the two branches never rejoin. (The semester still teaches them in sequence rather than in parallel: SQL in weeks 5-8, normalisation in weeks 9-11.)

### Ed Discussion protocol

- General questions about course content → **public** posts. If your peers can't answer, bring it to a tutorial or prac.
- Assignment questions that might reveal part of the solution → discuss with tutors in tutorials/practicals; if that isn't possible, **private** posts.
- Personal/admin enquiries → **private** posts.
- Staff reserve the right to change the visibility of a post.

### The RiPPLE weekly cycle

One activity per week from week 2 to week 13, cycling create → moderate → practise over each module:

| Weeks | Task order | Topic(s) |
|---|---|---|
| 2 / 3 / 4 | Create / Moderate / Practice | Modules 0 & 1 |
| 5 / 6 / 7 | Create / Moderate / Practice | Module 2 |
| 8 / 9 / 10 | Create / Moderate / Practice | Module 3 |
| 11 / 12 / 13 | Create / Moderate / Practice | Modules 4 & 5 |

Each weekly activity is worth 1 mark and the component is capped at 10, so two missed or sub-standard submissions cost nothing.

## Assessment

Weights and dates:

| Component | Weight | Due |
|---|---|---|
| Weekly RiPPLE activities (best 10 of 12) | 10% | Weekly, Fri 4pm from week 2 to week 13 (week 6 exception: Thu 2/04/2026) |
| Assignment 1 (ER models + relational data model) | 25% | Thu 2/04/2026 5:00pm |
| Assignment 2 — SQL, online submission | 25% | Fri 8/05/2026 5:00pm |
| Assignment 2 — oral assessment | — | During week 12 practicals (week beginning 18/05/2026) |
| Final exam | 40% | Exam period |

**Hurdles and exam rules**

The hurdle rules — whether the exam and the Assignment 2 oral are pass-required, the mark caps that follow a failed exam, the exam's length and permitted materials, and the exact exam-period dates — are in the course profile on Blackboard. Read them off the profile rather than trusting a remembered version.

Both assignments are **question-based tasks** — questions and tasks aligned to the learning objectives of the module the assignment covers, in the same style as those attempted in tutorial and practical sessions.

## Tentative weekly plan

The authoritative version lives on the Learning Resources page on Blackboard.

| Wk | Week beginning | Lecture (Fri 3–5pm) | Applied class | Practical |
|---|---|---|---|---|
| 1 | 23 Feb | Introduction + ER Model | — | — |
| 2 | 2 Mar | ER diagrams + EER | ER Model (basic) | Intro to course tools |
| 3 | 9 Mar | Relational Model | ER Model (advanced) | Case study 1 — ER diagrams |
| 4 | 16 Mar | Relational Model | ER→Relational | Labwork overview; case study 2.1 — the relational model |
| 5 | 23 Mar | SQL | Mapping | Case study 2.2 — ER mapping |
| 6 | 30 Mar | SQL (recorded lecture) | SQL: DDL and intro DML | Prac book module 3 — working with MySQL |
| — | 6 Apr | *Mid-semester break* | | |
| 7 | 13 Apr | SQL | SQL: aggregation and GROUP BY | Case study 3.1 — SQL: DDL |
| 8 | 20 Apr | SQL | SQL: multi-relation queries | Case study 3.2 — SQL: DML |

| Wk | Week beginning | Lecture (Fri 3–5pm) | Applied class | Practical |
|---|---|---|---|---|
| 9 | 27 Apr | FDs and normalisation | SQL: subqueries | SQL notebooks consult |
| 10 | 4 May | FDs and normalisation | Database design theory (basic) | Case study 4.1 — FDs and normalisation |
| 11 | 11 May | FDs and normalisation | Database design theory (advanced) | Case study 4.2 — FDs and normalisation |
| 12 | 18 May | Database Security | Database design theory (review) | Assignment 2 oral assessment |
| 13 | 25 May | Revision | Database Security | Database Security |

There is also a **practice assignment** across weeks 2–3, with no weight against it. The week 6 RiPPLE task is the single exception to the Friday 4pm deadline — that one is due Thursday 4pm.

## Academic integrity and generative AI

Academic integrity is "acting with the values of honesty, trust, fairness, respect and responsibility in learning, teaching and research" (Universities Australia, 2017). Academic integrity = professional integrity = personal integrity.

The six forms of misconduct staff look for: **plagiarism**, **collusion**, **falsification**, **fabrication**, **impersonation**, **contract cheating**. Note-sharing sites (Thinkswap, Course Hero, Chegg, StudentVIP, StuDocu) are checked. UQ recorded over 9,900 cases between January 2017 and December 2021 — plagiarism 6,542 and collusion 1,919 are by far the two largest categories. Penalties run from re-submission or zero marks at the lower end, through automatic failure of a course, to suspension or expulsion.

**Generative AI is permitted in the assignments**, on one condition: collate every prompt and response, with the URL and date, into a single PDF submitted as an appendix. Failing to reference or acknowledge AI use may itself constitute misconduct under PPL 3.60.01 (Student Code of Conduct). The **final exam is invigilated and AI is not permitted** in it, so practise under exam-like conditions without those tools. AI tools can generate incorrect or misleading results.

## Lectures

- 2026-02-23-conceptual-database-design-and-the-er-model[2]
- 2026-03-02-weak-entities-the-eer-model-and-design-choices[3]
- 2026-03-09-the-relational-model-and-integrity-constraints[4]
- 2026-03-16-er-to-relational-mapping[5]
- 2026-03-30-basic-sql-ddl-and-dml[6]
- 2026-04-06-aggregation-grouping-and-multiple-relation-queries[7]
- 2026-04-13-nested-queries-views-and-generative-ai[8]
- 2026-04-27-database-design-guidelines-and-functional-dependencies[9]
- 2026-05-04-normalisation-and-relational-database-schema-design[10]
- 2026-05-11-database-security[11]

## Reference / concept notes

### Notation and style guides

- er-diagram-notation[12] · relationship-constraints[13] · relational-mapping-notation[14] · infs1200-diagram-notation[15]

### Module 1 — conceptual design (ER/EER)

- dbms-fundamentals[16] · conceptual-database-design[17]
- entity-types-and-attributes[18] · relationship-types[19] · specialisation-and-generalisation[20]
- er-design-choices[21] · interpreting-er-diagrams[22]

[2] courses/infs1200/2026-02-23-conceptual-database-design-and-the-er-model.pdf
[3] courses/infs1200/2026-03-02-weak-entities-the-eer-model-and-design-choices.pdf
[4] courses/infs1200/2026-03-09-the-relational-model-and-integrity-constraints.pdf
[5] courses/infs1200/2026-03-16-er-to-relational-mapping.pdf
[6] courses/infs1200/2026-03-30-basic-sql-ddl-and-dml.pdf
[7] courses/infs1200/2026-04-06-aggregation-grouping-and-multiple-relation-queries.pdf
[8] courses/infs1200/2026-04-13-nested-queries-views-and-generative-ai.pdf
[9] courses/infs1200/2026-04-27-database-design-guidelines-and-functional-dependencies.pdf
[10] courses/infs1200/2026-05-04-normalisation-and-relational-database-schema-design.pdf
[11] courses/infs1200/2026-05-11-database-security.pdf
[12] courses/infs1200/er-diagram-notation.pdf
[13] courses/infs1200/relationship-constraints.pdf
[14] courses/infs1200/relational-mapping-notation.pdf
[15] courses/infs1200/infs1200-diagram-notation.pdf
[16] courses/infs1200/dbms-fundamentals.pdf
[17] courses/infs1200/conceptual-database-design.pdf
[18] courses/infs1200/entity-types-and-attributes.pdf
[19] courses/infs1200/relationship-types.pdf
[20] courses/infs1200/specialisation-and-generalisation.pdf
[21] courses/infs1200/er-design-choices.pdf
[22] courses/infs1200/interpreting-er-diagrams.pdf

### Module 2 — the relational model

- relational-model[23] · relational-keys[24] · foreign-keys[25]
- integrity-constraints[26] · update-operations-and-constraint-violations[27]
- er-to-relational-mapping[28] · er-mapping-pitfalls[29]

### Module 3 — SQL

- sql-ddl[30] · sql-dml[31] · sql-select-statement[32]
- sql-joins[33] · sql-aggregation-and-grouping[34] · sql-set-operations[35]
- sql-nested-queries[36] · relational-division[37] · sql-views[38] · sql-nulls[39]

### Module 4 — design theory and normalisation

- update-anomalies[40] · functional-dependencies[41] · attribute-closure[42]
- normal-forms[43] · minimal-cover[44] · decomposition[45] · 3nf-synthesis[46]

### Module 5 — security

- database-access-control[47] · sql-injection[48]

---

[23] courses/infs1200/relational-model.pdf
[24] courses/infs1200/relational-keys.pdf
[25] courses/infs1200/foreign-keys.pdf
[26] courses/infs1200/integrity-constraints.pdf
[27] courses/infs1200/update-operations-and-constraint-violations.pdf
[28] courses/infs1200/er-to-relational-mapping.pdf
[29] courses/infs1200/er-mapping-pitfalls.pdf
[30] courses/infs1200/sql-ddl.pdf
[31] courses/infs1200/sql-dml.pdf
[32] courses/infs1200/sql-select-statement.pdf
[33] courses/infs1200/sql-joins.pdf
[34] courses/infs1200/sql-aggregation-and-grouping.pdf
[35] courses/infs1200/sql-set-operations.pdf
[36] courses/infs1200/sql-nested-queries.pdf
[37] courses/infs1200/relational-division.pdf
[38] courses/infs1200/sql-views.pdf
[39] courses/infs1200/sql-nulls.pdf
[40] courses/infs1200/update-anomalies.pdf
[41] courses/infs1200/functional-dependencies.pdf
[42] courses/infs1200/attribute-closure.pdf
[43] courses/infs1200/normal-forms.pdf
[44] courses/infs1200/minimal-cover.pdf
[45] courses/infs1200/decomposition.pdf
[46] courses/infs1200/3nf-synthesis.pdf
[47] courses/infs1200/database-access-control.pdf
[48] courses/infs1200/sql-injection.pdf

## Exercises

- week1-lab-practical-1-course-tools[49]
- week2-tutorial-applied-class-1-intro-to-dbms-and-basic-erd[50]
- week3-tutorial-applied-class-2-entity-relationship-diagrams[51]
- week2-tutorial-case-study-1-dirt-road-driving[52]
- week4-tutorial-applied-class-3-relational-integrity[53]
- week5-tutorial-applied-class-4-entity-relationship-mapping[54]
- week3-tutorial-case-study-2-dirt-road-driving[55]
- week4-tutorial-case-study-3-dirt-road-driving[56]
- week6-tutorial-applied-class-5-basic-sql-ddl-and-dml[57]
- week6-tutorial-case-study-4-easydrive-insurance[58]
- week7-tutorial-applied-class-6-aggregation-and-grouping[59]
- week7-tutorial-case-study-5-easydrive-insurance[60]
- week8-tutorial-applied-class-7-multiple-relation-queries[61]
- week9-tutorial-applied-class-8-nested-queries-and-views[62]
- week10-tutorial-applied-class-9-functional-dependencies[63]
- week10-tutorial-case-study-8-dirt-road-driving[64]
- week11-tutorial-applied-class-10-normalisation-bcnf-3nf-synthesis[65]
- week11-tutorial-case-study-9-payroll-system[66]
- week12-tutorial-5-1-database-security[67]

[49] courses/infs1200/week1-lab-practical-1-course-tools.pdf
[50] courses/infs1200/week2-tutorial-applied-class-1-intro-to-dbms-and-basic-erd.pdf
[51] courses/infs1200/week3-tutorial-applied-class-2-entity-relationship-diagrams.pdf
[52] courses/infs1200/week2-tutorial-case-study-1-dirt-road-driving.pdf
[53] courses/infs1200/week4-tutorial-applied-class-3-relational-integrity.pdf
[54] courses/infs1200/week5-tutorial-applied-class-4-entity-relationship-mapping.pdf
[55] courses/infs1200/week3-tutorial-case-study-2-dirt-road-driving.pdf
[56] courses/infs1200/week4-tutorial-case-study-3-dirt-road-driving.pdf
[57] courses/infs1200/week6-tutorial-applied-class-5-basic-sql-ddl-and-dml.pdf
[58] courses/infs1200/week6-tutorial-case-study-4-easydrive-insurance.pdf
[59] courses/infs1200/week7-tutorial-applied-class-6-aggregation-and-grouping.pdf
[60] courses/infs1200/week7-tutorial-case-study-5-easydrive-insurance.pdf
[61] courses/infs1200/week8-tutorial-applied-class-7-multiple-relation-queries.pdf
[62] courses/infs1200/week9-tutorial-applied-class-8-nested-queries-and-views.pdf
[63] courses/infs1200/week10-tutorial-applied-class-9-functional-dependencies.pdf
[64] courses/infs1200/week10-tutorial-case-study-8-dirt-road-driving.pdf
[65] courses/infs1200/week11-tutorial-applied-class-10-normalisation-bcnf-3nf-synthesis.pdf
[66] courses/infs1200/week11-tutorial-case-study-9-payroll-system.pdf
[67] courses/infs1200/week12-tutorial-5-1-database-security.pdf