INFO20003 Database Systems

Credit Points:	12.5
Level:	2 (Undergraduate)
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 48 hours, comprising of two 1 hour lectures and one 2 hour workshop per week Total Time Commitment: 170 hours
Prerequisites:	One of the following: **Subject** / **Study Period Commencement:** / **Credit Points:** COMP10001 Foundations of Computing — Semester 1, Semester 2 — 12.50 COMP20005 Engineering Computation — Semester 1, Semester 2 — 12.50 COMP10002 Foundations of Algorithms — Semester 1, Semester 2 — 12.50 INFO10002 Informatics 2: Programming on the Web — Not offered 2016 — 12.50 VCE Algorithmics units 3/4 OR Achieving 75% in the programming competency test.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	Students cannot enrol in and gain credit for this subject and: **Subject** / **Study Period Commencement:** / **Credit Points:** INFO20001 Informatics 3: Content Management — Not offered 2016 — 12.50 INFO90002 Database Systems & Information Modelling — Semester 1, Semester 2 — 12.50 SINF90001 Database Systems & Information Modelling
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability
Coordinator:	Mr Mitchell Harrop
Contact:	**mharrop@unimelb.edu.au (mailto:mharrop@unimelb.edu.au)**

Subject Overview:	**Aims** Contemporary online services such as social networking and multimedia-sharing sites, massive multiplayer online games and commerce services are built on content management and database systems. In this subject, students will learn how to build their own domain-specific content management system, combining web technologies with database technologies. This subject is core within the Bachelor of Science for the Major of Computing and Software Systems and the Major of Informatics. Students completing the Diploma of Informatics are also required to undertake this subject. **Indicative Content** This subject serves as an introduction to data modelling and databases from a technical and data management perspective. Database design from conceptual design through to physical implementation will be covered. This will include Entity Relationship modelling, normalisation, de-normalisation, SQL, transactions, relational algebra and query optimisation. Other topics in data management and DBMS technology may also be included. A web-based database application will be developed to explore the skills learnt in this subject.
Learning Outcomes:	**Intended Learning Outcomes (ILOs)** On completion of this subject the student is expected to: 1 Demonstrate proficiency in solving practical data-modelling tasks 2 Design content-management systems using relational database techniques 3 Use SQL to interact with a relational database 4 Develop a web-based database application 5 Use database transactions
Assessment:	Three small, practical, database-related assignments (10% each) completed individually, requiring approximately 30-35 hours of work per student, equivalent 4000 words, due in the final weeks of semester. Intended Learning Outcomes (ILOs) 2 to 4 are addressed in the assignments. One mid-semester test (10%). ILOs 1 to 3 are addressed in the mid-semester test. One written 2 hour closed book end of semester examination (60%). ILOs 1, 2, 3 and 5 are addressed in the examination. Hurdle requirement: To pass the subject, students must obtain: at least 50% (15/30) in assignments at least 50% (35/70) in the mid-semester test and end of semester written examination combined.
Prescribed Texts:	None
Breadth Options:	This subject potentially can be taken as a breadth subject component for the following courses: # **Bachelor of Arts (https://handbook.unimelb.edu.au/view/2016/B-ARTS)** # **Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2016/B-COM)** # **Bachelor of Environments (https://handbook.unimelb.edu.au/view/2016/B-ENVS)** # **Bachelor of Music (https://handbook.unimelb.edu.au/view/2016/B-MUS)** You should visit **learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html)** and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	On completion of this subject students, should have developed the following generic skills: # The ability to analyse and solve problems involving large amounts of real-world data # The ability to synthesise information and communicate results effectively # The ability to work effectively as a member of a project team # The capacity for critical and independent thought and reflection # The ability to apply knowledge of basic science and engineering fundamentals # The ability to undertake problem identification, formulation and solution
Notes:	**Learning and Teaching Methods**

	The subject will be delivered through a combination of lectures and workshops. Students will also complete an assignment which will reinforce the material covered in class. **Indicative Key Learning Resources** Whilst there is no single text for this subject, students would be encouraged to utilize one of the many Database textbooks available, there are a number of these in the Library. Additional readings will be made available as necessary via the LMS. **Careers/Industry Links** This subject is one of the building blocks for most careers in IT. A database makes the management of information possible and is one of the most prominently used technologies within all organisations.
Related Majors/Minors/ Specialisations:	Computer Science Computer Science Master of Engineering (Software with Business) Master of Engineering (Software) Science-credited subjects - new generation B-SCI and B-ENG. Selective subjects for B-BMED Spatial Systems