COMP90049 Knowledge Technologies

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2013.
Time Commitment:	Contact Hours: 36 hours, comprising of two 1-hour lectures and one 1-hour workshop per week Total Time Commitment: 120 hours
Prerequisites:	One of the following:

Subject	Study Period Commencement:	Credit Points:
COMP20003 Algorithms and Data Structures	Not offered 2013	12.50
COMP90038 Algorithms and Complexity	Not offered 2013	12.50
COMP20007 Design of Algorithms	Not offered 2013	12.50

OR

433-253 Algorithms and Data Structures

Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	

Subject	Study Period Commencement:	Credit Points:
COMP30018 Knowledge Technologies	Not offered 2013	12.50

OR

433-352 Data on the Web

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
Contact:	Professor Rao Kotagiri email: **kotagiri@unimelb.edu.au (mailto:kotagiri@unimelb.edu.au)**
Subject Overview:	Much of the world's knowledge is stored in the form of unstructured data (e.g. text) or implicitly in structured data (e.g. databases). In this subject students will learn algorithms and data structures for extracting, retrieving and storing explicit knowledge from various data sources, with a focus on the web. Topics include: data encoding and markup, web crawling, clustering, regular expressions, pattern mining, Bayesian learning, instance-based learning, document indexing, database storage and indexing, and text retrieval.

Objectives:	Having completed this unit the student is expected to apply his knowledge and skills in many fields that need extensive data analysis. The student would gain skills to describe and apply the fundamentals of knowledge systems, including data acquisition and aggregation, knowledge extraction, text retrieval, machine learning and data mining in many application domains ranging from commerce to medicine.
Assessment:	Project work during semester, expected to take about 36 hours (40%). Project 1 will starts at the beginning of the 5th week and project is for 3 weeks. Project 2 commences on the 8th week and finishes on 12th week. These projects will be oriented to attain ILO 1-2 and all General skills. Students will develop their own code and use standard libraries for text processing and classification. They have to analyse the results and document system and the analysis performed. One mid-semester test (10%): This test will assess students understanding related to text processing and evaluations methods for answer sets of queries. The test is conducted during the 5th week. One 2-hour examination held during the examination period (50%). This is a comprehensive test to assesses students understanding of all the topics covered in the subject. To pass the subject, students must obtain at least:50% overall 20/40 in project work, and 30/60 in the mid-semester test and end-of-semester written examination combined
Prescribed Texts:	None
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	General skills include the ability to undertake problem identification, formulation and developing solutions especially exploiting acquired data. In addition, this subject exposes students to use various data processing tools and make them learn integration of these tools to build more complex software systems. As a result, the student will develop skills to utilise a systems approach to complex problems. They also develop skills to manage information and produce documentation of the developed system. The project work associated with the course creates ample scope for creativity, originality and innovation.
Related Course(s):	Master of Engineering in Distributed Computing Master of Information Technology Master of Information Technology Master of Information Technology Master of Information Technology Master of Philosophy - Engineering Master of Science (Computer Science) Master of Software Systems Engineering Ph.D.- Engineering
Related Majors/Minors/ Specialisations:	Computer Science Master of Engineering (Software)