384AA Bachelor of Computer Science (Honours)

Year and Campus:	2012
CRICOS Code:	037236G
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Undergraduate
Duration & Credit Points:	100 credit points taken over 12 months
Coordinator:	Dr Aaron Harwood email: comp-hons-coord@unimelb.edu.au
Contact:	Melbourne School of Engineering Ground Floor, Old Engineering (Building 173) Current Students: Email: **13MELB@unimelb.edu.au (mailto:13MELB@unimelb.edu.au)** Phone: 13 MELB (13 6352) +61 3 9035 5511 Prospective Students: Email: **eng-info@unimelb.edu.au (mailto:eng-info@unimelb.edu.au)** Phone: + 61 3 8344 6944
Course Overview:	The BCS (Honours) program is designed to: # Provide an introduction to the process and practice of research in computer science # Enable the acquisition of specialised research skills # Encourage the development of the ability to think critically and independently # Consolidate and extend the student's understanding of a range of aspects of the disciplines of computer science and software engineering; and # Improve oral and written communication skills
Objectives:	On completion of this course graduates should: # Have a sound fundamental understanding of the scientific principles underlying technologyHave acquired the educational and professional standards of the professional institutions with which the school's courses are accredited # Possess a broad knowledge base of their chosen discipline and of other disciplines to facilitate effective communication with those other professionals with whom engineers routinely communicate # Be able to apply the basic principles underlying the management of physical, human and financial resources # Have acquired the mathematical and computational skills necessary for the solution of theoretical and practical problems Possess analytical, problem-solving and design skills, including those appropriate for sustainable developmentHave verbal and written communication skills that enable them to contribute substantially to society # Have acquired lifelong learning skills for further development professionally and for meeting future changes in technology Have acquired a sense of professional ethics and responsibility towards the profession and the communityHave developed the interpersonal and management skills required by engineers in undertaking professional activities; and # Be able to enact the social, cultural, global and environmental responsibilities of the professional engineer, and the need for sustainable development
Course Structure & Available Subjects:	A two-semester program on a full-time basis comprising 100 points as follows: Honours thesis component (37.5 points, normally 12.5 points in first semester of enrolment and 25 points in second semester of enrolment): # COMP40001 Computer Science Research Project, or equivalent Research Project subjects totalling 37.5 points Advanced coursework subjects (62.5 points): Five subjects totalling 62.5 points, in study level-9 subjects taught by the Department, with the exception of the subjects listed below.

Students may also enrol in up to 25 points of subjects at the honours or masters level of study in cognate areas from outside the Department, subject to approval being granted by the Honours Coordinator.

Majors/Minors/ Specialisations

None

None

Subject Options:

Subject	Study Period Commencement:	Credit Points:
COMP40001 Computer Science Research Project	Semester 1, Semester 2	37.50
COMP40002 Computer Science Research Project 25	Semester 1, Semester 2	25
COMP40003 Computer Science Research Project 18.75	Semester 1, Semester 2	18.75
COMP40004 Computer Science Research Project 12.5	Semester 1, Semester 2	12.50

Students are NOT allowed to enrol in the following project-based subjects as part of the 62.5 points of Advanced coursework:

Subject	Study Period Commencement:	Credit Points:
COMP90019 Distributed Computing Project	Semester 1, Semester 2	25
COMP90028 Information Technology Research Project	Semester 1, Semester 2	25
COMP90030 Minor Research Project	Semester 1, Semester 2	25
COMP60001 Computer Science Research Project	Semester 1, Semester 2	50
SWEN40001 Advanced Software Engineering Project	Year Long	25
SWEN90014 Masters Software Engineering Project	Year Long	25
SWEN90013 Masters Advanced Software Project	Year Long	25
SWEN40001 Advanced Software Engineering Project	Year Long	25

Level -9 elective subjects are:

(Please note that the subjects which have been listed below may not be offered every year.)

Subject	Study Period Commencement:	Credit Points:
SWEN90009 Software Requirements Analysis	Semester 1	12.50
COMP90017 Sensor Networks and Applications	Not offered 2012	12.50
COMP90042 Web Search and Text Analysis	Semester 1	12.50
COMP90043 Cryptography and Security	Semester 2	12.50
COMP90045 Programming Language Implementation	Semester 1	12.50
COMP90046 Constraint Programming	Semester 2	12.50
COMP90018 Mobile Computing Systems Programming	Semester 2	12.50
COMP90020 Distributed Algorithms	Semester 2	12.50
SWEN90003 IT Project Management	Semester 1	12.50

SWEN90008 Software Processes and Management	Semester 1	12.50
SWEN90002 Engineering for Internet Applications	Semester 2	12.50
COMP90044 Research Methods	Semester 2	12.50
COMP90014 Algorithms for Functional Genomics	Semester 2	12.50
COMP90016 Computational Genomics	Semester 1	12.50
COMP90024 Cluster and Grid Computing	Semester 1	12.50
COMP90050 Advanced Database Systems	Not offered 2012	12.50
COMP90051 Statistical and Evolutionary Learning	Not offered 2012	12.50
COMP90053 Program Analysis and Transformation	Not offered 2012	12.50
COMP90054 Software Agents	Not offered 2012	12.50
COMP90025 Parallel and Multicore Computing	Not offered 2012	12.50
COMP90052 Computer Vision and Image Processing	Not offered 2012	12.50

Students are NOT allowed to enrol in the following level-9 subjects:

Subject	Study Period Commencement:	Credit Points:
COMP90007 Internet Technologies	Semester 1, Semester 2	12.50
COMP90038 Algorithms and Complexity	Semester 1, Semester 2	12.50
COMP90041 Programming and Software Development	Semester 1, Semester 2	12.50

Assessment

Hurdle assessment requirements

Students enrolled in the BCS (Honours) must pass at least 100 points of approved subjects, including COMP40001 Computer Science Research Project, and must have a weighted average mark (calculated over the best 100 points of such approved subjects, but always including COMP40001 Computer Science Research Project) of at least 65 per cent.
Students enrolled in the BCS (Honours) are also expected to have a satisfactory level of attendance at departmental seminars.
Students will be advised of hurdle requirements for the individual coursework subjects at the commencement of each subject.

Components of assessment

The BCS (Honours) program comprises a research project subject and five advanced coursework subjects. These subjects with their relative weightings are as follows:

COMP40001 Computer Science Research Project = 37.5%
Advanced Coursework subjects, five at 12.5 points each = 62.5%

The final honours grade is the weighted average mark over the 100 points included in these two components. Students who complete more than 62.5 points of advanced coursework will have their final honours grade calculated as their weighted average mark over the 100 points of study obtained by including their best 62.5 points of advanced coursework.

Entry Requirements:

To enter the BCS (Honours), students must have:

Completed a BCS or equivalent program as assessed by the department
Passed at least 25 points of level-1 mathematics or statistics; and
Attained a final-year average mark of at least 65
Students should also note that study of mathematics or statistics at the second-year level is strongly recommended

	Students from other institutions and other backgrounds should contact the honours coordinator to determine their eligibility for entry to the BCS (Honours) degree.
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: http://www.services.unimelb.edu.au/disability/
Graduate Attributes:	Graduate Attributes: Ability to undertake problem identification, formulation, and solution Ability to utilise a systems approach to complex problems and to design and operational performance Capacity for creativity and innovationAbility to manage information and documentation
Generic Skills:	An Engineering graduate has a unique skill set comprising a blend of technical, business and interpersonal skills. Upon completion of the Bachelor of Engineering at the University of Melbourne, students will have strong analytical skills, the ability to lead teams and projects and the creativity to look at problems in a way that provides innovative solutions. Our graduates are known for their high standards and professionalism, their understanding of global issues and their outstanding communication skills. For details, see "Objectives".