Curtin University
(https://handbook.curtin.edu.au)

Computing Major (BAdvSci)

MJRU-ADCMP Commencing 1 July 2020

Version 1 (1 Jul 2020 - onward)

Location

Duration

Award code

CRICOS Code

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Course overview

This major/stream is part of a larger course. Information is specific to the major/stream, please refer to the course for more information.

This Bachelors level major provides a flexible and personalised approach to studying computing with students able to explore the field through opportunities for immersive research experiences, industry placement and team-based projects. The computing major provides a thorough coverage of modern computing, covering the core aspects of programming and the theoretical knowledge to put this into context. Curtin's Computing course teaches Java and C and introduces other languages in specific streams. Linux is used throughout the course, with most packages used being freely available for the students to install at home. An industry-level object-oriented programming methodology is taught throughout the course. Graduates from the course will have a high level of knowledge of the processes involved in software development and maintenance. The aim of this Major is to prepare the students for the areas of Information and Communications Technology stated to be most in demand and for positions that are most difficult to fill based on regular consultations with industry.

Professional recognition

Graduates of this course may be eligible for membership to the Australian Computer Society.

Entry and completion details

Credit for recognised learning

Applications for credit towards a course are assessed on an individual basis. Credit reduces the amount of learning required to complete the course and may be granted for formal education qualifications, non-formal learning from non-award programs of study and informal learning through work experiences. Further information can be found at http://futurestudents.curtin.edu.au/non-school-leavers/rpl.cfm (http://futurestudents.curtin.edu.au/non-school-leavers/rpl.cfm)

Learning outcomes

This major consists of core computing units in, a set of core units focused on the development of research and leadership skills and attributes.

Course learning outcomes

1. Demonstrate an advanced knowledge of the nature of science, its methods and processes, and an advanced ability to apply the theoretical foundations of computing to new application areas; place new technological developments in a historical context for a changing and evolving society.
2. Evaluate standard algorithms, techniques, and software technologies in a manner that is appropriate for challenging and multi-faceted problems; think critically and creatively to generate innovative and optimum theoretical and practical solutions.
3. Access evaluate and synthesise information from a range of computing sources to optimise the process of software design and implementation.
4. Communicate the process of software development effectively in written and oral form to informed professional audiences from both technical and non-technical backgrounds.
5. Effectively use emerging and existing technologies to address complex problems, recognising their advantages and limitations.
6. Sustain intellectual independence and curiosity by updating their knowledge and engaging in continuous training and research.
7. Consider computing problems from a global perspective and recognise the inherent global nature of information and communications technology.
8. Work collaboratively and respectfully with colleagues from a range of cultural backgrounds and contribute to society using technology in an ethical, legal, and socially responsible manner.
9. Demonstrate initiative, leadership and ethical practice when working independently and collaboratively and as a leader of research; recognise and apply IEEE (Institute of

Electrical and Electronics Engineers)/ACM (Association for Computing Machinery)/ACS (Australian Computer Society) standards and best practices in process software design and development.

Duration and availability

This course is three years full-time or equivalent part-time study. One intake is offered each year in February.

Additional course expenses

Students may be expected to purchase a number of textbooks and other essential study materials.

Course structure

Year 1

The content of this section will change based on your previous selection

Year 2

Semester 1

Complete the below

Code	Title	Credits
COMP2006 (/units/unit-ug-operating-systems--comp2006v1)	Operating Systems (/units/unit-ug-operating-systems--comp2006v1)	25

Code	Title	Credits
ISEC2001 (/units/unit-ug-fundamental-concepts-of-data-security--isec2001v2)	Fundamental Concepts of Data Security (/units/unit-ug-fundamental-concepts-of-data-security--isec2001v2)	25

Semester 2

Complete the below

Code	Title	Credits
COMP1006 (/units/unit-ug-foundations-of-computer-science--comp1006v1)	Foundations of Computer Science (/units/unit-ug-foundations-of-computer-science--comp1006v1)	25
COMP2008 (/units/unit-ug-mobile-application-development--comp2008v1)	Mobile Application Development (/units/unit-ug-mobile-application-development--comp2008v1)	25

Year 3

Semester 1

Complete the below

Code	Title	Credits

Code	Title	Credits
CNCO2000 (/units/unit-ug-computer-communications--cnco2000v1)	Computer Communications (/units/unit-ug-computer-communications--cnco2000v1)	25
COMP3001 (/units/unit-ug-design-and-analysis-of-algorithms--comp3001v1)	Design and Analysis of Algorithms (/units/unit-ug-design-and-analysis-of-algorithms--comp3001v1)	25

Semester 2

Complete the below

Code	Title	Credits
COMP2007 (/units/unit-ug-programming-languages--comp2007v1)	Programming Languages (/units/unit-ug-programming-languages--comp2007v1)	25
COMP3002 (/units/unit-ug-theoretical-foundations-of-computer-science--comp3002v1)	Theoretical Foundations of Computer Science (/units/unit-ug-theoretical-foundations-of-computer-science--comp3002v1)	25

Curtin University reserves the right to alter the internal composition of any course to ensure learning outcomes retain maximum relevance. Any changes to the internal composition of a course will protect the right of students to complete the course within a normal timeframe and will not result in additional cost to students through a requirement to undertake additional units.

Location and delivery

Information for international students

If you are an international student studying on a student visa, you must undertake a full-time load in each study period. There may be additional admission criteria that must be met. For more information, you can refer to the International Students' (https://international.curtin.edu.au/) website. If you do not hold a student visa or are studying outside of Australia, you have the option to study full-time, part-time and/or fully online depending on course and unit availabilities as well as your in-country visa requirements.

Acknowledgement of inherent requirements

I understand that all Curtin courses have compulsory and other core capabilities that are essential for demonstrating the achievement of course learning outcomes and graduation. If I am unable to meet or demonstrate those requirements, now or in later during my studies, reasonable adjustments will be sought by the University wherever possible to facilitate alternative ways of achieving of those requirements. If reasonable adjustments cannot be accommodated, Curtin will discuss study options to find an alternative course of study or an exit degree.

Student rights and responsibilities

As a Curtin University student, you are part of the Curtin community and as such, you have rights and responsibilities. Some relate to your work as a student, such as academic integrity and copyright. Others relate to your use of resources and the way you behave around other students. Students are expected to abide by the University's statutes, rules, by-laws, policies and procedures (https://policies.curtin.edu.au/legislation/statutes_rules.cfm) as amended from time to time. You can find further information about your rights and responsibilities (https://students.curtin.edu.au/essentials/rights/) on the Student Essentials website.

Disclaimer of liability

You can access the full disclaimer of liability (https://www.curtin.edu.au/disclaimer-of-liability/) on the Study website.