BACHELOR OF COMPUTER SCIENCE

Effective from: 2022
Approved Abbreviation: BCompSc
Western Sydney University Program Code: 3506
AQF Level: 7

CRICOS Code: 041105G

This program applies to students who commenced in 2022 or later.

Students should follow the program structure for the session start date relevant to the year they commenced.

For Commencement Year 2019 to 2021 please refer to: 3506.9 - Bachelor of Computer Science (http://handbook.westernsydney.edu.au/hbook/course.aspx?course=3506.9)

For Commencement Year 2014 to 2016 please refer to: 3506.7 - Bachelor of Computer Science (http://handbook.westernsydney.edu.au/hbook/course.aspx?course=3506.7)

The Bachelor of Computer Science provides an in-depth technical understanding of computer software systems, underpinned by theoretical foundations and practical techniques. The program provides a solid foundation for computer science study in computer theory, software design, development, and applications. It provides you with the knowledge and skills to develop effective and innovative solutions to problems. A range of specialised majors are offered in Cyber Security, Artificial Intelligence, Systems Programming, Networked Systems, Technology Entrepreneurship and Cloud Computing. Students work on real world projects and complete an industry experience project giving them an edge to access excellent career opportunities as programmers, system or software developers, or AI engineers.

Study Mode
Three years full-time.

Program Advice
Program advice (CDMS@westernsydney.edu.au)

Prospective students should visit the following websites for general enquiries about this program.

Enquire about this program (https://enquiry.westernsydney.edu.au/courseenquiry/)| Local Admission (https://www.westernsydney.edu.au/future/) | International Admission (https://www.westernsydney.edu.au/international/home/apply/admissions/) |

Location

Campus	Attendance	Mode	Advice
Parramatta Campus - Victoria Road	Full Time	Internal	See above
Penrith Campus	Full Time	Internal	See above

Accreditation
The Bachelor of Computer Science currently is accredited with the Australian Computer Society at the professional level.

Work Integrated Learning
Western Sydney University seeks to enhance student learning experiences by enabling students to engage in the culture, expectations and practices of their profession or discipline. This program includes a placement or other community-based unpaid practical experience.

There is a mandatory work component required for completion of this program. Please contact the Program Advisor listed above for information.

International students should also refer to the link below for more information and a link to the Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS).

Work Integrated Learning (WIL) for international students (https://www.westernsydney.edu.au/currentstudents/current_students/services_and_facilities/international_student_support/working_in_australia/work_integrated_learning/)

Admission
Assumed Knowledge: HSC Mathematics and any two units of HSC English.

Applications from Australian and New Zealand citizens and holders of permanent resident visas may be made via the Universities Admissions Centre (UAC) or directly through the Western Portal. Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

http://www.uac.edu.au/
https://westernsydney.uac.edu.au/ws/

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International students currently completing an Australian Year 12 in or outside Australia, an International Baccalaureate in Australia or a New Zealand National Certificate of Educational Achievement (NCEA) level 3 must apply via UAC International.

http://www.uac.edu.au/

All other International applicants must apply directly to the University via the International Office.

International students applying to the University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

International Office (http://www.westernsydney.edu.au/international/)

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

Program Structure
Qualification for this award requires the successful completion of 240 credit points which include the subjects listed in the recommended sequence below.

Recommended Sequence
Full-time start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1028	Statistical Decision Making	10
COMP 1005	Programming Fundamentals	10
COMM 1026	Principles of Professional Communication 1	10
MATH 1006	Discrete Mathematics	10
	Credit Points	**40**
Spring session		
COMP 2008	Computer Organisation	10
COMP 2014	Object Oriented Programming	10
INFS 2001	Database Design and Development	10
COMP 2004	Computer Networking	10
	Credit Points	**40**
Year 2		
Autumn session		
COMP 2019	Systems Programming 1	10
COMP 2009	Data Structures and Algorithms	10
Select two electives		20
	Credit Points	**40**
Spring session		
INFS 3003	Artificial Intelligence	10
INFO 3006	Information Security	10
COMP 3009	Distributed Systems and Programming	10
Select one elective		10
	Credit Points	**40**
Year 3		
Autumn session		
INFO 3008	Professional Development	10
Select three electives		30
	Credit Points	**40**
Spring session		
COMP 3018	Professional Experience	10
INFS 3008	Formal Software Engineering	10
Select two electives		20
	Credit Points	**40**
	Total Credit Points	**240**

Full-time mid-year intake

Course	Title	Credit Points
Year 1		
Spring session		
COMP 1005	Programming Fundamentals	10
INFS 2001	Database Design and Development	10
COMP 2004	Computer Networking	10
Select one elective		10
	Credit Points	**40**
Autumn session		
MATH 1028	Statistical Decision Making	10
COMM 1026	Principles of Professional Communication 1	10
MATH 1006	Discrete Mathematics	10
Select one elective		10
	Credit Points	**40**
Year 2		
Spring session		
COMP 2008	Computer Organisation	10
COMP 2014	Object Oriented Programming	10
Select two electives		20
	Credit Points	**40**
Autumn session		
COMP 2019	Systems Programming 1	10
COMP 2009	Data Structures and Algorithms	10
INFO 3008	Professional Development	10
Select one elective		10
	Credit Points	**40**
Year 3		
Spring session		
INFO 3006	Information Security	10
INFS 3008	Formal Software Engineering	10
COMP 3009	Distributed Systems and Programming	10
INFS 3003	Artificial Intelligence	10
	Credit Points	**40**
Autumn session		
COMP 3018	Professional Experience	10
Select three electives		30
	Credit Points	**40**
	Total Credit Points	**240**

Accelerated Pathway - Summer Sessions

Course	Title	Credit Points
Year 1		
Autumn session		
MATH 1028	Statistical Decision Making	10
COMP 1005	Programming Fundamentals	10
COMM 1026	Principles of Professional Communication 1	10
MATH 1006	Discrete Mathematics	10
	Credit Points	**40**
Spring session		
COMP 2008	Computer Organisation	10
COMP 2014	Object Oriented Programming	10
INFS 2001	Database Design and Development	10
COMP 2004	Computer Networking	10
	Credit Points	**40**
Summer A session		
Select two electives		20
	Credit Points	**20**
Year 2		
Autumn session		
COMP 2009	Data Structures and Algorithms	10
COMP 2019	Systems Programming 1	10
Select two electives		20
	Credit Points	**40**
Spring session		
INFO 3006	Information Security	10

INFS 3008	Formal Software Engineering	10
COMP 3009	Distributed Systems and Programming	10
INFS 3003	Artificial Intelligence	10
	Credit Points	40
Summer A session		
INFO 3008	Professional Development	10
Select one elective		10
	Credit Points	20
Year 3		
Autumn session		
COMP 3018	Professional Experience	10
Select three electives		30
	Credit Points	40
	Total Credit Points	240

Suggested Elective Subjects

Subject	Title	Credit Points
COMP 3003	Cloud Computing Architecture	10
COMP 3006	Computer Graphics	10
COMP 3007	Computer Networks and Internets	10
INFO 3002	Ethical Hacking Principles and Practice	10
INFO 3015	Internet of Things and Smart Environments	10
COMP 3012	Introduction to Cloud Computing	10
MATH 2009	Introduction to Data Science	10
From 2022 MATH 2009 Introduction to Data Science is replaced by COMP 2025 Introduction to Data Science		
COMP 2025	Introduction to Data Science	10
COMP 3013	Mobile Applications Development	10
INFO 3007	Network Security	10
COMP 3014	Networked Systems Design	10
COMP 3015	Operating Systems Programming	10
MATH 3007	Predictive Modelling	10
From Spring 2022 MATH 3007 Predictive Modelling is replaced by COMP 3032 Machine Learning		
COMP 3032	Machine Learning	10
COMP 3033	Quantum Computing and Communication	10
COMP 3027	Robotic Programming	10
COMP 3020	Social Web Analytics	10
COMP 2020	Technologies for Web Applications	10
MATH 2014	Visual Analytics	10
From 2022 MATH 2014 Visual Analytics is replaced by COMP 2026 Visual Analytics		
COMP 2026	Visual Analytics	10
INFS 3017	Web Systems Development	10
COMP 3025	Wireless and Mobile Networks	10

Majors

The majors listed below have been designed specifically for this program and are recommended for Bachelor of Computer Science students.

Artificial Intelligence, Major (https://hbook.westernsydney.edu.au/majors-minors/artificial-intelligence-major/)

Cyber Security, Major (https://hbook.westernsydney.edu.au/majors-minors/cyber-security-major/)

Networked Systems, Major (https://hbook.westernsydney.edu.au/majors-minors/networked-systems-major/)

Systems Programming, Major (https://hbook.westernsydney.edu.au/majors-minors/systems-programming-major/)

Technology Entrepreneurship, Major (https://hbook.westernsydney.edu.au/majors-minors/technology-entrepreneurship-major/)

Minor

Cloud Computing, Minor (https://hbook.westernsydney.edu.au/majors-minors/cloud-computing-minor/)

Note: students may use some of their elective space to complete a Major or the Minor

Minor elective spaces

Elective subjects may be used toward obtaining an additional approved minor (40 credit points). Western Sydney University offers minors in a range of areas including Sustainability and Indigenous Studies.

Global Sustainability Minor (https://hbook.westernsydney.edu.au/majors-minors/global-sustainability-minor/)
Indigenous Australian Studies Minor (https://hbook.westernsydney.edu.au/majors-minors/indigenous-australian-studies-minor/)

Western Sydney University also offers the following innovative transdisciplinary minors which we encourage those students who have elective space to consider.

Equitable Technologies (https://hbook.westernsydney.edu.au/majors-minors/equitable-technologies-minor/)
Urban Evolution (https://hbook.westernsydney.edu.au/majors-minors/urban-evolution-minor/)
Migration and Global Change (https://hbook.westernsydney.edu.au/majors-minors/migration-global-change-minor/)
Personal Innovation (https://hbook.westernsydney.edu.au/majors-minors/personal-innovation-minor/)
Innovating, Creating and Problem Solving (https://hbook.westernsydney.edu.au/majors-minors/innovating-creating-problem-solving-minor/)
Eco-Socially Conscious Design and Manufacturing (https://hbook.westernsydney.edu.au/majors-minors/eco-socially-conscious-design-manufacturing-minor/)
Water for Life (https://hbook.westernsydney.edu.au/majors-minors/water-life-minor/)
Climate Justice (https://hbook.westernsydney.edu.au/majors-minors/climate-justice-minor/)
Global Workplaces (https://hbook.westernsydney.edu.au/majors-minors/global-workplaces-minor/)
Innovating For Humans (https://hbook.westernsydney.edu.au/majors-minors/innovating-humans-minor/)

Search for majors and minors (https://hbook.westernsydney.edu.au/majors-minors/)

Students can apply for an elective minor via MySR.

MyStudentRecords (MySR) (https://student-selfservice.westernsydney.edu.au/StudentSelfService/ssb/studentCommonDashboard/)