BACHELOR OF INFORMATION AND COMMUNICATIONS TECHNOLOGY (ADVANCED) (3684)

Approved Abbreviation: BICTAdv
Western Sydney University Program Code: 3684
AQF Level: 7

CRICOS Code: 077827J

Program Status: CURRENT
This program applies to students who commenced in 2022 or later

The Bachelor of Information and Communications Technology (Advanced) is a challenging program that includes advanced coursework, extension projects and basic research training which develops the knowledge and skill sets of capable students for the high end of ICT professions. A mentoring program links students with experienced academic staff and research groups within the University helping to highlight relevant new and emerging technology developments for use in student work. Students are engaged in a wide variety of application development, industry projects and work integrated learning. To complete the degree, students do a major to specialise in topics, such as, cyber security, cloud computing, multimedia computing. Students also have options to do a minor, such as Ubiquitous Computing, Data Science and Machine Learning. This is a rewarding degree providing graduates with an ever-expanding range of employment options.

Study Mode
Three years full-time.

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
Campbelltown Campus	Full Time	Internal	See above
Parramatta Campus - Victoria Road	Full Time	Internal	See above
Penrith Campus	Full Time	Internal	See above

Accreditation
The Bachelor of Information and Communications Technology (Advanced) is accredited with the Australian Computer Society (ACS) at 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.

Minimum ATAR of 90. Students must maintain a Grade Point Average (GPA) greater than 5.0 to continue their enrolment in this program.

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 2022
If you commenced in 2023 or later please refer to the Structure 2023 tab for details.

Students within the Advanced degree are required to complete five Advanced subjects.

Compulsory Advanced Subjects

Subject	Title	Credit Points
COMP 2016	Programming Techniques (Advanced)	10
INFS 3018	Web Systems Development (Advanced)	10
COMP 3019	Professional Experience (Advanced)	10
INFS 1015	Systems Analysis and Design (Advanced)	10
INFO 3004	Human-Computer Interaction (Advanced)	10
Select one of the following:		10
COMP 2005	Computer Networking (Advanced)	
INFS 2007	Object Oriented Analysis (Advanced)	
INFS 2002	Database Design and Development (Advanced)	
COMP 3016	Operating Systems Programming (Advanced)	
Total Credit Points		**60**

Recommended Sequence 2022

If you commenced in 2023 or later please refer to the Sequence 2023 tab for details.

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

Course	Title	Credit Points
Year 1		
Autumn session		
COMP 1005	Programming Fundamentals	10
COMM 1026	Principles of Professional Communication 1	10
MATH 1028	Statistical Decision Making	10
INFS 1015	Systems Analysis and Design (Advanced)	10
	Credit Points	**40**
Spring session		
COMP 2015	Programming Techniques	10
Select one of the following:		10
COMP 2004	Computer Networking	
COMP 2005	Computer Networking (Advanced)	
Select one of the following:		10
INFS 2001	Database Design and Development	
INFS 2002	Database Design and Development (Advanced)	
Select one elective		10
	Credit Points	**40**
Year 2		
Autumn session		
COMP 2020	Technologies for Web Applications	10
COMP 3007	Computer Networks and Internets	10
Select one of the following:		10
INFS 2006	Object Oriented Analysis	
INFS 2007	Object Oriented Analysis (Advanced)	
Select one elective		10
	Credit Points	**40**
Spring session		
COMP 3020	Social Web Analytics	10
INFS 3018	Web Systems Development (Advanced)	10
Select two electives		20
	Credit Points	**40**

Course	Title	Credit Points
Year 3		
Autumn session		
INFO 3008	Professional Development	10
INFO 3004	Human-Computer Interaction (Advanced)	
Select one of the following:		10
COMP 3015	Operating Systems Programming	
COMP 3016	Operating Systems Programming (Advanced)	
Select one elective		10
	Credit Points	**30**
Spring session		
COMP 3019	Professional Experience (Advanced)	10
Select three electives		30
	Credit Points	**40**
	Total Credit Points	**230**

Majors and Minors

All current majors and minors available to program 3639 Bachelor of Information and Communications Technology are also available to those enrolled in program 3684.2 - Bachelor of Information and Communications Technology (Advanced).

Please see list below

Majors

Cyber Security, Major (0066) (https://hbook.westernsydney.edu.au/majors-minors/cyber-security-major/)

Entertainment Computing, Major (0145) (https://hbook.westernsydney.edu.au/majors-minors/entertainment-computing-major/)

Health Informatics

Mathematics, Major (0059) (https://hbook.westernsydney.edu.au/majors-minors/mathematics-major/)

Mobile Computing, Major (0146) (https://hbook.westernsydney.edu.au/majors-minors/mobile-computing-major/)

Networking, Major (0040) (https://hbook.westernsydney.edu.au/majors-minors/networking-major/)

Technology Entrepreneurship, Major (0261) (https://hbook.westernsydney.edu.au/majors-minors/technology-entrepreneurship-major/)

Minors

Astroinformatics, Minor (0096) (https://hbook.westernsydney.edu.au/majors-minors/astroinformatics-minor/)

Cloud Computing, Minor (0128) (https://hbook.westernsydney.edu.au/majors-minors/cloud-computing-minor/)

Entertainment Computing, Minor (0145) (https://hbook.westernsydney.edu.au/majors-minors/entertainment-computing-minor/)

Health Informatics, Minor (0037) (https://hbook.westernsydney.edu.au/majors-minors/health-informatics-minor/)

IT Support, Minor (0205) (https://hbook.westernsydney.edu.au/majors-minors/it-support-minor/)

Mathematics, Minor (0059) (https://hbook.westernsydney.edu.au/majors-minors/mathematics-minor/)

Mobile Computing, Minor (0146) (https://hbook.westernsydney.edu.au/majors-minors/mobile-computing-minor/)

Networking, Minor (0040) (https://hbook.westernsydney.edu.au/majors-minors/networking-minor/)

Social Media Analytics, Minor (0147) (https://hbook.westernsydney.edu.au/majors-minors/social-media-analytics-minor/)

Systems Security, Minor (0150) (https://hbook.westernsydney.edu.au/majors-minors/systems-security-minor/)

Web Application Development (for Computing Students), Minor (0151) (https://hbook.westernsydney.edu.au/majors-minors/web-application-development-for-computing-students-minor/)

Minor Elective Spaces

Elective subjects may be used toward obtaining an additional approved minor (40 credit points).

Search for Minors (https://hbook.westernsydney.edu.au/programs/bachelor-information-communications-technology/)

Students in Advanced programs may use elective subjects toward obtaining an additional approved minor in Applied Leadership or Critical Thinking.

Students may select their electives to be used toward obtaining an additional approved minor in Applied Leadership or Critical Thinking.

Applied Leadership, Minor

Critical Thinking, Minor (https://hbook.westernsydney.edu.au/majors-minors/critical-thinking-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 Challenge Minors (https://www.westernsydney.edu.au/educational_partnerships_and_quality/home/challenge_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/)
Creative and Visual Communication (https://hbook.westernsydney.edu.au/majors-minors/creative-visual-communication-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/)
Creative Living for Cultural Wellbeing (https://hbook.westernsydney.edu.au/majors-minors/creative-living-cultural-wellbeing-minor-/)
Ideate.Strategise.Innovate. (https://hbook.westernsydney.edu.au/majors-minors/ideate-strategise-innovate-minor/)
Humanising Data (https://hbook.westernsydney.edu.au/majors-minors/humanising-data-minor/)

For more information, visit the Challenge Minor (https://www.westernsydney.edu.au/educational_partnerships_and_quality/home/challenge_minors/) website.

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

Students can apply for an elective minor via Western Now.

WesternNow (https://www.westernsydney.edu.au/westernnow/)

Replaced Majors and Minors
The majors and minors listed below count towards completion of this program for students who began studying these majors and minors prior to the years indicated below.

M3102 Cyber Security, Major (http://handbook.westernsydney.edu.au/hbook/specialisation.aspx?unitset=M3102.1), replaced by Cyber Security, Major in 2018 (listed above).
M3070 Networking, Major (http://handbook.westernsydney.edu.au/hbook/specialisation.aspx?unitset=M3070.1), replaced by Networking, Major in 2017 (listed above).

SM3055 Networking, Minor (http://handbook.westernsydney.edu.au/hbook/specialisation.aspx?unitset=SM3055.1), replaced by Networking, Minor in 2017 (listed above).

Program Structure 2023

This structure applies to students who commenced in 2023 or later. If you commenced prior to 2023 please refer to the Structure 2022 tab for details.

Qualification for this award requires the successful completion of 240 credit points which include one major from the list below.

Majors

Cyber Security and Ethical Hacking, Testamur Major (T145) (https://hbook.westernsydney.edu.au/majors-minors/cyber-security-ethical-hacking-testamur-major/)

Enterprise Systems and Architectures, Testamur Major (T151) (https://hbook.westernsydney.edu.au/majors-minors/enterprise-systems-architectures-ug-testamur-major/)

Health Informatics, Testamur Major (T007) (https://hbook.westernsydney.edu.au/majors-minors/health-informatics-pg-testamur-major/)

Multimedia Computing, Testamur Major (T147) (https://hbook.westernsydney.edu.au/majors-minors/multimedia-computing-testamur-major-t147/)

Networking and Cloud Computing, Testamur Major (T146) (https://hbook.westernsydney.edu.au/majors-minors/networking-cloud-computing-testamur-major-t146/)

Software Development, Testamur Major (T148) (https://hbook.westernsydney.edu.au/majors-minors/software-development-testamur-major-t148/)

Recommended Sequence Autumn 2023

This sequence applies to students who commenced in Autumn 2023 or later. If you commenced prior to 2023 please refer to the Sequence 2022 tab for details.

Qualification for this award requires the successful completion of 240 credit points

Full-time start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
COMP 1005	Programming Fundamentals	10
MATH 1038	Mathematics for Computing	10
INFO 1003	Professional Practice, Communication and Ethics	10
HUMN 1013	Contextualising Indigenous Australia (Day Mode)	10
	Credit Points	**40**
Spring session		
COMP 2021	Software Engineering Fundamentals	10
COMP 2016	Programming Techniques (Advanced)	10
COMP 2005	Computer Networking (Advanced)	10
INFS 2002	Database Design and Development (Advanced)	10
	Credit Points	**40**
Year 2		
Autumn session		
COMP 2027	Cyber Security	10
Select two major subjects		20
Select one elective		10
	Credit Points	**40**
Spring session		
COMP 3028	Software Construction	10
INFO 3019	Project Management	10
Select two major subjects		20
	Credit Points	**40**
Year 3		
Autumn session		
Select two major subjects		20
Select two electives		20
	Credit Points	**40**
Spring session		
COMP 3019	Professional Experience (Advanced)	10
Select two major subjects		20
Select one elective		10
	Credit Points	**40**
	Total Credit Points	**240**

Full-time mid-year intake

Course	Title	Credit Points
Year 1		
Spring session		
COMP 2021	Software Engineering Fundamentals	10
COMP 1005	Programming Fundamentals	10
COMP 2005	Computer Networking (Advanced)	10
INFS 2002	Database Design and Development (Advanced)	10
	Credit Points	**40**
Autumn session		
MATH 1038	Mathematics for Computing	10
INFO 1003	Professional Practice, Communication and Ethics	10
HUMN 1013	Contextualising Indigenous Australia (Day Mode)	10
Select one elective		10
	Credit Points	**40**
Year 2		
Spring session		
COMP 3028	Software Construction	10
INFO 3019	Project Management	10
COMP 2016	Programming Techniques (Advanced)	10
Select one major subjects		10
	Credit Points	**40**
Autumn session		
COMP 2027	Cyber Security	10
Select two major subjects		20
Select one elective		10
	Credit Points	**40**
Year 3		
Spring session		
COMP 3019	Professional Experience (Advanced)	10
Select two major subjects		20
Select one elective		10
	Credit Points	**40**
Autumn session		
Select three major subjects		30
Select one elective		10
	Credit Points	**40**
	Total Credit Points	**240**

Electives

Please note: elective spaces can be used to complete a Minor.

Major or minor subjects can be used in the elective spaces.

Majors

Cyber Security and Ethical Hacking, Testamur Major (T145) (https://hbook.westernsydney.edu.au/majors-minors/cyber-security-ethical-hacking-testamur-major/)

Health Informatics, Testamur Major (T007) (https://hbook.westernsydney.edu.au/majors-minors/health-informatics-pg-testamur-major/)

Multimedia Computing, Testamur Major (T147) (https://hbook.westernsydney.edu.au/majors-minors/multimedia-computing-testamur-major-t147/)

Networking and Cloud Computing, Testamur Major (T146) (https://hbook.westernsydney.edu.au/majors-minors/networking-cloud-computing-testamur-major-t146/)

Software Development, Testamur Major (T148) (https://hbook.westernsydney.edu.au/majors-minors/software-development-testamur-major-t148/)

Minors

It is suggested that students in the Bachelor of Information and Communications Technology who wish to choose a minor should choose from the list of optional minors below.

Cloud Computing, Minor (0128) (https://hbook.westernsydney.edu.au/majors-minors/cloud-computing-minor/)

Cyber Security and Ethical Hacking, Minor (0326) (https://hbook.westernsydney.edu.au/majors-minors/cyber-security-ethical-hacking-minor/)

Data Science and Machine Learning, Minor (0322) (https://hbook.westernsydney.edu.au/majors-minors/data-science-machine-learning-minor/)

Games Development, Minor (0323) (https://hbook.westernsydney.edu.au/majors-minors/games-development/)

Graphics and Visual Simulation, Minor (0324) (https://hbook.westernsydney.edu.au/majors-minors/graphics-visual-simulation-minor/)

Health Informatics, Minor (0037) (https://hbook.westernsydney.edu.au/majors-minors/health-informatics-minor/)

Multimedia Computing, Minor (0328) (https://hbook.westernsydney.edu.au/majors-minors/multimedia-computing-minor-0328/)

Networking, Minor (0040) (https://hbook.westernsydney.edu.au/majors-minors/networking-minor/)

Software Development, Minor (0329) (https://hbook.westernsydney.edu.au/majors-minors/software-development-minor-0329/)

Ubiquitous Computing, Minor (0325) (https://hbook.westernsydney.edu.au/majors-minors/ubiquitous-computing/)

Recommended Sequence Spring 2023

This sequence applies to students who commenced in Spring 2023.

If you commenced in Autumn 2023 please refer to the Autumn 2023 Sequence tab for details. If you commenced prior to 2023 please refer to the Sequence 2022 tab for details.

Qualification for this award requires the successful completion of 240 credit points.

Full-time start-year intake

Course	Title	Credit Points
Year 1		
Autumn session		
COMP 1005	Programming Fundamentals	10
INFO 1003	Professional Practice, Communication and Ethics	10
HUMN 1013	Contextualising Indigenous Australia (Day Mode)	10
Select one of the following		10
MATH 1038	Mathematics for Computing	
MATH 1006	Discrete Mathematics	
	Credit Points	**40**
Spring session		
COMP 2021	Software Engineering Fundamentals	10
COMP 2016	Programming Techniques (Advanced)	10
COMP 2005	Computer Networking (Advanced)	10

Course	Title	Credit Points
INFS 2002	Database Design and Development (Advanced)	10
	Credit Points	**40**
Year 2		
Autumn session		
COMP 2027	Cyber Security	10
Select two major subjects		20
Select one elective		10
	Credit Points	**40**
Spring session		
COMP 3028	Software Construction	10
INFO 3019	Project Management	10
Select two major subjects		20
	Credit Points	**40**
Year 3		
Autumn session		
Select two major subjects		20
Select two electives		20
	Credit Points	**40**
Spring session		
COMP 3019	Professional Experience (Advanced)	10
Select two major subjects		20
Select one elective		10
	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
COMP 2005	Computer Networking (Advanced)	10
INFS 2002	Database Design and Development (Advanced)	10
Select one elective		
	Credit Points	**30**
Autumn session		
INFO 1003	Professional Practice, Communication and Ethics	10
HUMN 1013	Contextualising Indigenous Australia (Day Mode)	10
COMP 2021	Software Engineering Fundamentals	10
Select one of the following		10
MATH 1038	Mathematics for Computing	
MATH 1006	Discrete Mathematics	
	Credit Points	**40**
Year 2		
Spring session		
COMP 3028	Software Construction	10
INFO 3019	Project Management	10
COMP 2016	Programming Techniques (Advanced)	10
Select one major subjects		10
	Credit Points	**40**
Autumn session		
COMP 2027	Cyber Security	10
Select two major subjects		20

Select one elective		10
	Credit Points	**40**
Year 3		
Spring session		
COMP 3019	Professional Experience (Advanced)	10
Select two major subjects		20
Select one elective		10
	Credit Points	**40**
Autumn session		
Select three major subjects		30
Select one elective		10
	Credit Points	**40**
	Total Credit Points	**230**

Electives

Please note: elective spaces can be used to complete a Minor.

Major or minor subjects can be used in the elective spaces.

Majors

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Health Informatics, Testamur Major (T007) (https://hbook.westernsydney.edu.au/majors-minors/health-informatics-pg-testamur-major/)

Multimedia Computing, Testamur Major (T147) (https://hbook.westernsydney.edu.au/majors-minors/multimedia-computing-testamur-major-t147/)

Networking and Cloud Computing, Testamur Major (T146) (https://hbook.westernsydney.edu.au/majors-minors/networking-cloud-computing-testamur-major-t146/)

Software Development, Testamur Major (T148) (https://hbook.westernsydney.edu.au/majors-minors/software-development-testamur-major-t148/)

Minors

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Cyber Security and Ethical Hacking, Minor (0326) (https://hbook.westernsydney.edu.au/majors-minors/cyber-security-ethical-hacking-minor/)

Data Science and Machine Learning, Minor (0322) (https://hbook.westernsydney.edu.au/majors-minors/data-science-machine-learning-minor/)

Games Development, Minor (0323) (https://hbook.westernsydney.edu.au/majors-minors/games-development/)

Graphics and Visual Simulation, Minor (0324) (https://hbook.westernsydney.edu.au/majors-minors/graphics-visual-simulation-minor/)

Health Informatics, Minor (0037) (https://hbook.westernsydney.edu.au/majors-minors/health-informatics-minor/)

Multimedia Computing, Minor (0328) (https://hbook.westernsydney.edu.au/majors-minors/multimedia-computing-minor-0328/)

Networking, Minor (0040) (https://hbook.westernsydney.edu.au/majors-minors/networking-minor/)

Software Development, Minor (0329) (https://hbook.westernsydney.edu.au/majors-minors/software-development-minor-0329/)

Ubiquitous Computing, Minor (0325) (https://hbook.westernsydney.edu.au/majors-minors/ubiquitous-computing/)