THE UNIVERSITY OF NOTRE DAME AUSTRALIA

Program Code: 3585

CRICOS Code: TBC

PROGRAM REQUIREMENTS:

Bachelor of Computer Science

BCompSc

THE UNIVERSITY OF
NOTRE DAME
AUSTRALIA

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2   AMENDMENTS

Amendments to these requirements will be made in accordance with the General Regulations.

Version	Date Amended	Amendment Details	Approved by
1	April 2024	New program created	Academic Council
2			
3			
4			
5			

3 PURPOSE

These Program Requirements set out the approved requirements for the Bachelor of Computer Science.

4 OVERVIEW

4.1 Campus Availability
The Bachelor of Computer Science has been approved for delivery on the Fremantle Campus and the Sydney Campus.

4.2 Student Availability
The Bachelor of Computer Science is available for enrolment to domestic students. The program will be offered to international students once CRICOS approval is obtained.

4.3 Australian Qualifications Framework
The Bachelor of Computer Science is accredited by the University as a Level 7 AQF qualification.

4.4 Duration
The Volume of Learning for the Bachelor of Computer Science is three (3) years of equivalent full-time study.

An option to complete this Program Part-time is available.

4.5 Maximum Duration
The maximum period of time within which a student is permitted to complete the Bachelor of Computer Science Award is detailed in the University's General Regulations.

4.6 Study Mode
The Bachelor of Computer Science is offered in Internal / Multimode Study mode. This means that some courses may optionally be completed through online (External) Study mode.

4.7 Professional Accreditation
The Bachelor of Computer Science is in the process of being accredited by the Australian Computer Society (ACS).

5 ENTRY REQUIREMENTS

5.1 University Admission Requirements
To be eligible for admission to The University of Notre Dame Australia, all applicants must meet the University's minimum requirements for admission. The requirements for admission are detailed in the University's Policy: *Admissions.*

5.2 Specific Program Requirements for Admission
There are no additional entry requirements or pre-requisites for the Bachelor of Computer Science.

6 PRACTICUM OR INTERNSHIP REQUIREMENTS

6.1 Practicum or internship requirements are not applicable to the Bachelor of Computer Science. However, there are opportunities for students to address real-world problems or complete projects in the workplace (WIL) in the courses Industry-linked Project A, Industry-liked Project B, and Team Project.

7 PROGRAM REQUIREMENTS

7.1 Program Description

The Bachelor of Computer Science program aims to equip students with essential theoretical knowledge and practical skills to become competent computer science professionals. The program covers a broad range of topics in computer science, such as software development, computer networks, cyber security, artificial intelligence, and data science. The program emphasises practical and problem-based approaches to learning, with a focus on developing students' ability to apply theoretical concepts to real-world problems. This approach is achieved through individual and group projects, case studies, and simulations. The Industry-linked Projects (A and B) and Team Project allow students to explore real-world challenges in industry internships/placements (optional) or industry-based scenarios or industry-partner collaborative Work Integrated Learning (WIL). Transferable skills such as critical thinking, communication, teamwork, and project management are also instilled in students. The program provides a comprehensive education in computer science, practical and problem-based learning experiences, strong industry links, and transferable skills that prepare them for successful careers in a dynamic and ever-changing field.

Additionally, the program is seeking Australian Computing Society (ACS) accreditation. By meeting the ACS requirements for the accreditation, the program will assure employers that graduates have acquired the necessary knowledge, skills, and competencies required for employment in the field of computer science, enhancing their employability and increasing their chances of securing rewarding positions in the industry.

7.2 Program Learning Outcomes

Upon successful completion of the Bachelor of Computer Science graduates will be able to:

1. Understand advanced computer science concepts and techniques and their application to and implications for a global society.
2. Critically evaluate existing technologies and techniques and apply appropriate problem-solving strategies to design and implement modern solutions.
3. Analyse and design software solutions to meet specific requirements using appropriate software design and development principles and techniques.
4. Evaluate and implement secure software systems with a focus in artificial intelligence and data science, considering ethical, social, legal, and professional issues.
5. Assess pressing research problems in the discipline area of computer science and effectively communicate the results including clear articulation of the research question, methodology, findings, and conclusions.
6. Demonstrate strong project management skills and the ability to work both independently and as part of a team to plan, execute, and evaluate a substantial software development project.

7.3 Required Courses

To be eligible for the award of Bachelor of Computer Science students must complete a minimum of 600 Units of Credit chosen from the courses listed in Appendix A comprising:

50 Units of Credit from two (2) Core Curriculum Courses

350 Units of Credit from fourteen (14) Compulsory Courses

200 Units of Credit from eight (8) Courses to include courses required to complete at least one (1) of the Majors listed at 7.6 below.

7.4 Elective Courses

There are no general elective courses in the Bachelor of Computer Science.

7.5   Course substitutions
There are no approved course substitutions permitted in this Award.

7.6   Majors
All students in the Bachelor of Computer Science are required to complete at least one (1) of the following Majors:

Artificial Intelligence
Cyber Security
Data Science

Requirements for the Majors are listed in Appendix B.

DEFINITIONS
For the purpose of these Requirements, the following definitions are available in the General Regulations.

- Leave of Absence
- Major
- Units of Credit
- Pre-requisite Course
- Minor
- Elective
- Co-requisite Course
- Specialisation
- General Elective

8   LIST OF APPENDICES

APPENDIX A1:   Bachelor of Computer Science (Requirements)

	Units of Credit
Fourteen (14) Compulsory / Prescribed Courses	
COMP1001 Computer Systems and Networks	25
COMP1002 Mathematics for Computer Science	25
COMP1004 Database Systems	25
COMP1006 Web Design and Development	25
COMP1007 ICT Project Management and Governance	25
COMP2001 Data Structures and Algorithms	25
COMP2002 Artificial Intelligence	25
COMP2007 Team Project	25
COMP2014 Principles of Cyber Security	25
COMP2015 Systems Analysis and Design	25
COMP3001 Industry-linked Project A	25
COMP3002 Industry-linked Project B	25
COMP3003 Software Testing and Quality Assurance	25
COMP3008 Advanced Topics in Computer Science	25
Subtotal	**350**
Two (2) Core Curriculum Courses	
CORE1000 Foundations of Wisdom	25
Core Curriculum Elective (at 2000- OR 3000-level)	25
Subtotal	**50**
Major	
Eight (8) courses to form a Computer Science Major **Subtotal**	**200**
TOTAL	**600**

APPENDIX A2: Bachelor of Computer Science (Indicative Study Plans)

YEAR ONE						
Semester One				**Semester Two**		
Course Code	**Course Title**	**cp**		**Course Code**	**Course Title**	**cp**
CORE1000	Foundations of Wisdom	25		COMP1007	ICT Project Management and Governance	25
COMP1001	Computer Systems and Networks	25		COMP1004	Database Systems	25
COMP1002	Mathematics for Computer Science	25		COMP1006	Web Design and Development	25
COMP1003	Programming Principles and Techniques (Major 1)	25		COMP1005	Object Oriented Programming (Major 2)	25
	Total cp for Y1 S1	100			**Total cp for Y1 S2**	100
					Total cp Year One	200

YEAR TWO						
Semester One				**Semester Two**		
Course Code	**Course Title**	**cp**		**Course Code**	**Course Title**	**cp**
COMP2014	Principles of Cyber Security	25		COREXXXX	Core Curriculum Elective	25
COMP2001	Data Structures and Algorithms	25		COMP2007	Team Project	25
COMP2002	Artificial Intelligence	25		COMP2015	Systems Analysis and Design	25
COMP2003, OR COMP2004, OR COMP2005	Network Security and Cryptography Data Analysis Web Application Development (Major 3)	25		COMP2008, OR COMP2009	Machine Learning, OR Ethical Hacking and Penetration Testing (Major 4)	25
	Total cp for Y2 S1	100			**Total cp for Y2 S2**	100
					Total cp Year Two	200

YEAR THREE						
Semester One				**Semester Two**		
Course Code	**Course Title**	**cp**		**Course Code**	**Course Title**	**cp**
COMP3001	Industry-linked Project A	25		COMP3002	Industry-linked Project B	25
COMP3003	Software Testing and Quality Assurance	25		COMP3008	Advanced Topics in Computer Science	25
COMP2010	Data Visualisation (Major 5)	25		COMP3004, OR COMP3005, OR COMP3006	Deep Learning, OR Cybercrime and Digital Forensics, OR Big Data Analytics (Major 6)	25
COMP3009	Internet of Things (Major 7)	25		COMP3013	Human Computer Interaction (Major 8)	25
	Total cp for Y3 S1	100			**Total cp for Y3 S2**	100
					Total cp Year Three	200
					TOTAL PROGRAM cp:	600

Mid-year (S2) commencement:

YEAR ONE						
Semester One				**Semester Two**		
Course Code	**Course Title**	**cp**		**Course Code**	**Course Title**	**cp**
				CORE1000	Foundations of Wisdom	25
				COMP1004	Database Systems	25
				COMP1006	Web Design and Development	25
				COMP1003	Programming Principles and Techniques (Major 1)	25
Total cp for Y1 S1		0		**Total cp for Y1 S2**		100
				Total cp Year One		100

YEAR TWO						
Semester One				**Semester Two**		
Course Code	**Course Title**	**cp**		**Course Code**	**Course Title**	**cp**
COMP2014	Principles of Cyber Security	25		COMP1007	ICT Project Management and Governance	25
COMP1001	Computer Systems and Networks	25		COMP2007	Team Project	25
COMP1002	Mathematics for Computer Science	25		COMP2008, OR COMP2009	Machine Learning, OR Ethical Hacking and Penetration Testing (Major 4)	25
COMP1005	Object Oriented Programming (Major 2)	25		COMP3013	Human Computer Interaction (Major 8)	25
Total cp for Y2 S1		100		**Total cp for Y2 S2**		100
				Total cp Year Two		200

YEAR THREE						
Semester One				**Semester Two**		
Course Code	**Course Title**	**cp**		**Course Code**	**Course Title**	**cp**
COMP3001	Industry-linked Project A	25		COMP3002	Industry-linked Project B	25
COMP2001	Data Structures and Algorithms	25		COMP2015	Systems Analysis and Design	25
COMP2002	Artificial Intelligence	25		COMP3008	Advanced Topics in Computer Science	25
COMP2003, OR COMP2004, OR COMP2005	Network Security and Cryptography Data Analysis Web Application Development (Major 3)	25		COMP3004, OR COMP3005, OR COMP3006	Deep Learning, OR Cybercrime and Digital Forensics, OR Big Data Analytics (Major 6)	25
Total cp for Y3 S1		100		**Total cp for Y3 S2**		100
				Total cp Year Three		200

YEAR FOUR						
Semester One				**Semester Two**		
Course Code	**Course Title**	**cp**		**Course Code**	**Course Title**	**cp**
COREXXXX	Core Curriculum Elective	25				
COMP3003	Software Testing and Quality Assurance	25				
COMP2010	Data Visualisation (Major 5)	25				
COMP3009	Internet of Things (Major 7)	25				
	Total cp for Y4 S1	100			**Total cp for Y4 S2**	0
					Total cp Year Four	100
					TOTAL PROGRAM cp:	**600**

APPENDIX B: MAJOR REQUIREMENTS

Major: Artificial Intelligence

Course Code	Course Title	Units of Credit
COMP1003	Programming Principles and Techniques	25
COMP1005	Object Oriented Programming	25
COMP2005	Web Application Development	25
COMP2008	Machine Learning	25
COMP2010	Data Visualisation	25
COMP3004	Deep Learning	25
COMP3009	Internet of Things	25
COMP3013	Human Computer Interaction	25

Artificial Intelligence Specialisation: COMP1003, COMP2008, COMP2010, AND COMP3004.

Major: Cyber Security

Course Code	Course Title	Units of Credit
COMP1003	Programming Principles and Techniques	25
COMP1005	Object Oriented Programming	25
COMP2003	Network Security and Cryptography	25
COMP2009	Ethical Hacking and Penetration Testing	25
COMP2010	Data Visualisation	25
COMP3005	Cybercrime and Digital Forensics	25
COMP3009	Internet of Things	25
COMP3013	Human Computer Interaction	25

Cyber Security Specialisation: COMP1003, COMP2003, COMP2009, AND COMP3005.

Major: Data Science

Course Code	Course Title	Units of Credit
COMP1003	Programming Principles and Techniques	25
COMP1005	Object Oriented Programming	25
COMP2004	Data Analysis	25
COMP2008	Machine Learning	25
COMP2010	Data Visualisation	25
COMP3006	Big Data Analytics	25
COMP3009	Internet of Things	25
COMP3013	Human Computer Interaction	25

Data Science Specialisation: COMP1003, COMP2004, COMP2010, AND COMP3006.

APPENDIX C: LIST OF PRE-REQUISITES / CO-REQUISITES

COURSE CODE	COURSE TITLE	PRE-REQUISITE	CO-REQUISITE
CORE1000	Foundations of Wisdom	None	None
COMP1 001	Computer Systems and Networks	None	None
COMP1002	Mathematics for Computer Science	None	None
COMP1 003	Programming Principles and Techniques	None	None
COMP1 004	Database Systems	None	None
COMP1 005	Object Oriented Programming	COMP1003 Programming Principles and Techniques	None
COMP1006	Web Design and Development	None	None
COMP1007	ICT Project Management and Governance	None	None
COMP2014	Principles of Cyber Security	at least 100 cp at 1000-level or above	None
COMP2001	Data Structures and Algorithms	at least 100 cp at 1000-level or above OR COMP1004 Database Systems	None
COMP2002	Artificial Intelligence	at least 100 cp at 1000-level or above	None
COMP2003	Network Security and Cryptography	at least 100 cp at 1000-level or above OR COMP1001 Computer Systems and Networks	None
COMP2004	Data Analysis	at least 100 cp at 1000-level or above	None
COMP2005	Web Application Development	at least 100 cp at 1000-level or above OR COMP1006 Web Design and Development	None
COMP2007	Team Project	at least 100 cp at 1000-level or above OR COMP1007 ICT Project Management and Governance	None
COMP2008	Machine Learning	at least 100 cp at 1000-level or above	None
COMP2009	Ethical Hacking and Penetration Testing	at least 100 cp at 1000-level or above OR COMP2014 Principles of Cyber Security	None
COMP2010	Data Visualisation	at least 100 cp at 1000-level or above OR COMP2004 Data Analysis	None
COMP2015	Systems Analysis and Design	at least 100cp at 1000-level or above AND COMP1001 Computer Systems and Networks	None
COMP3001	Industry-linked Project A	at least 100 cp at 1000-level or above AND COMP2007 Team Project	None
COMP3002	Industry-linked Project B	COMP3001 Industry-linked Project A	None

COMP3003	Software Testing and Quality Assurance	at least 325 cp at 1000-level or above <u>AND</u> COMP1007 ICT Project Management and Governance	None
COMP3004	Deep Learning	at least 325 cp at 1000-level or above <u>AND</u> COMP2008 Machine Learning	None
COMP3005	Cybercrime and Digital Forensics	COMP2003 Network Security and Cryptography <u>AND</u> COMP2009 Ethical Hacking and Penetration Testing	None
COMP3006	Big Data Analytics	at least 325 cp at 1000-level or above <u>AND</u> COMP2004 Data Analysis	None
COMP3008	Advanced Topics in Computer Science	at least 325 cp at 1000-level or above AND COMP3001 Industry-Linked Project A	None
COMP3009	Internet of Things	at least 325 cp at 1000-level or above	None
COMP3013	Human Computer Interaction	at least 100 cp at 1000-level or above	None