

## Bachelor of Computer and Information Sciences BCIS 2025

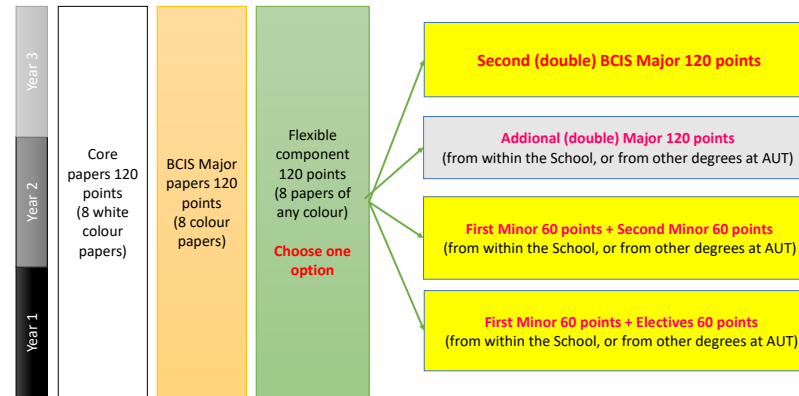
		Digital Services (DIS)	Networks and Cybersecurity (NC)	Software Development (SD)	Data Science (DaS)	Computer Science (CS)		
Year 1	CORE	COMP500 Programming Concepts and Techniques (S1, S2, SS)					Artificial Intelligence (AI) Minor Only	
		COMP501 Computing Technology in Society (S1, S2)						
		DIGD507 Mahi Tahi: Collaborative Practices (S1, S2)						
		Choose ONE: MATH502 Algebra and Discrete Mathematics (S2), or MATH503 Mathematics for Computing (S1, S2, SS)						
		COMP507 IT Project Management (S1, S2)						
		COMP508 Database System Design (S1, S2)						
	MAJOR	INF5502 Digital Services in IT (S2)	COMP504 Networks and Internet (S1, S2)  Pre-req: COMP500/ENSE501	COMP503 Object Oriented Programming Programming (S1, S2)  Pre-req: COMP500/ENSE501	COMP517 Data Analysis (S2)	COMP503 Object Oriented Programming (S1, S2)  Pre-req: COMP500/ENSE501	COMP517 Data Analysis (S2)	
Year 2	MAJOR	INF5603 Needs Analysis, Acquisition and Training (S1)	COMP604 Operating Systems (S1, S2)  Pre-req: [COMP503/ENSE502/ENSE504] or COMP504	COMP603 Program Design and Construction (S1, S2)  Pre-req: COMP503/COMP610/ENSE502	COMP615 Foundations of Data Science (S1)  Pre-req: COMP517	COMP610 Data Structures and Algorithms (S1, S2)  Pre-req: COMP503/ENSE502/ENSE602	COMP610 Data Structures and Algorithms (S1, S2)  Pre-req: COMP503/ENSE502/ENSE602	
		INF5604 Service Modelling (S1)	COMP607 Information Security Technologies (S2)  Pre-req: COMP501	COMP610 Data Structures and Algorithms (S1, S2)  Pre-req: COMP503/ENSE502/ENSE602	COMP616 Statistics for Data Science (S1)  Pre-req: MATH502 or MATH503	COMP611 Algorithm Design and Analysis (S2)  Pre-req: COMP610	(or)	
		INF5605 Microservices (S2)	COMP609 Network and System Administration (S1)  Pre-req: COMP500 and COMP504	COMP602 Software Development Practice (S1, S2)  Pre-req: COMP603 or COMP610	STAT603 Forecasting (S2) Pre-req: MATH502 or MATH503	COMP613 Combinatorics and Graph Theory (S1)  Pre-req: COMP500 and [MATH502 or MATH503]	COMP613 Combinatorics and Graph Theory (S1)  Pre-req: COMP500 and [MATH502 or MATH503]	
		COMP603 Program Design and Construction (S1, S2)  Pre-req: COMP503/COMP610/ENSE502 (or) COMP607 Information Security Technologies (S2)  Pre-req: COMP501	ENEL611 Computer Network Applications (S1) Pre-req: COMP504 or ENEL504	COMP604 Operating Systems (S1, S2) [COMP503/ENSE502/ENSE504] or COMP504 (or) COMP611 Algorithm Design and Analysis (S2)  Pre-req: COMP610	COMP610 Data Structures and Algorithms (S1, S2)  Pre-req: COMP503/ENSE502/ENSE602 (or) COMP613 Combinatorics and Graph Theory (S1)  Pre-req: COMP500 and [MATH502 or MATH503]	COMP612 Computer Graphics Programming (S2) [MATH503 or MATH502] and [COMP603 or COMP610]	(or) COMP615 Foundations of Data Science (S1)  Pre-req: COMP517	
		COMP702 Research and Development Project (Part 1) (S1, S2)						
		COMP703 Research and Development Project (Part 2) (S1, S2)						
Year 3	MAJOR	Choose THREE	COMP715 Network Security (S2)  Pre-req: ENEL611	COMP719 Applied Human Computer Interaction (S1)	COMP717 Artificial Intelligence (S1) Pre-req: COMP500 or equivalent; 60 points at level 6 major	COMP711 Theory of Computation (S2)  Pre-req: COMP610 or COMP613	COMP700 Text and Vision Intelligence (S2)	
		INF5704 Service Innovation and Design (S1)  (or)	COMP714 Advanced Network Technologies (S2)  Pre-req: COMP609				(or)	
		COMP718 Information Security Management (S1)  (or)	(or)	ENSE701 Contemporary Issues in Software Engineering (S1, S2) Pre-req: COMP603 or [COMP610/ENSE600]	COMP723 Data Mining and Knowledge Engineering (S2)	COMP712 Programming Languages (S2)  Pre-req: COMP603/ENSE502	COMP701 Nature Inspired Computing  Pre-req: COMP500 (S1)	
		COMP726 Blockchains and Cryptocurrencies (S2)  (or)	COMP729 Enterprise Networks (S2)  Pre-req: COMP504/ENEL504					
		COMP728 IoT and Applications (S2)	COMP716 Highly Secure Systems (S1) Pre-req: COMP611 or [ENSE501 and COMP610]  (or)	COMP713 Distributed and Mobile Systems (not running)  Pre-req: COMP611 (or)	COMP700 Text and Vision Intelligence (S2)  (or) COMP701 Nature Inspired Computing Pre-req: COMP500 (S1)	COMP713 Distributed and Mobile Systems (not running)  (or)	COMP717 Artificial Intelligence (S1)  Pre-req: COMP500 or equivalent; 60 points at level 6 major	
			COMP718 Information Security Management (S1)	COMP721 Web Development (S1)  Pre-req: COMP603/ENSE600		COMP719 Applied Human Computer Interaction (S1)		

S1: Offered in Semester 1  
 S2: Offered in Semester 2  
 SS: Offered in Summer Semester  
 Pre-req: Prerequisite paper(s)  
 Note:

All courses are 15 points  
 MATH502 is highly recommended for Computer Science major as a replacement for MATH503 (core)

Software Development Major (Game programming pathway)
(COMP612 and COMP710) can replace (COMP602 and COMP713/COMP721) only if <b>BOTH (COMP612 and COMP710)</b> are taken
COMP612 Computer Graphics Programming (S2) Pre-req: [MATH503 or MATH502] and [COMP603 or COMP610]
COMP719 Game Programming (S1) Pre-req: COMP612

## Bachelor of Computer and Information Sciences BCIS 2025



### Notes:

- **Additional Major:** Subject to the conditions set out on the Additional Major requirements, students can take up an additional major (120 points) from either within the School or from other degrees at AUT <https://www.aut.ac.nz/study/study-options/Additional-majors-and-minors-for-bachelors-degrees>
- **Minors:** Students can choose at least one (up to two) additional minor (60 points each) within the School or from other degrees in AUT but subject to the conditions set out on the Minor requirements <https://www.aut.ac.nz/study/study-options/Additional-majors-and-minors-for-bachelors-degrees>
- **Electives:** Students who are doing a single major and single minor can choose 4 elective papers (60 points) at any level (5, 6 or 7) to make up the 120 points in the flexible component. They can be from within the School or from other degrees in AUT as long as the content doesn't overlap with any of the completed papers.
- **Artificial intelligence minor** is not available to students taking the Data Science major.
- **Double major** student, your two majors can have up to 30 points in common to meet the major requirement (i.e., COMP503 count toward Software Development and Computer Science Major). **You still need 360 points in total from different courses to complete your degree.**
- **Software Development Major and Computer Science Minor** students cannot count COMP503 towards both major/minor, they must take an additional level 6/7 course in their CS minor, and vice versa.
- **COMP702 and COMP703:** Students can enrol in the Research and Development Project courses once they have completed all level 5 and 6 core and major courses.
- **Course level** is the first digit of the numeric part of the alphanumerical paper code (E.g., COMP607 is a level 6 course). Generally you can take the courses during any year of study as long as you met the pre-prerequisite

*Please contact the CMS Undergrad Team (program administrators): [cmsundergrad@aut.ac.nz](mailto:cmsundergrad@aut.ac.nz) for further details and help with enrolment.*