Bachelor of Computer and Information Sciences BCIS 2024

		Digital Services	Networks and Cybersecurity	Software Development	Data Science	Computer Science
Year 1	CORE	**COMP500** Programming Concepts and Techniques (S1, S2, SS)				
		COMP501 Computing Technology in Society (S1, S2)				
		DIGD507 Mahi Tahi: Collaborative Practices (S1, S2)				
		MATH503 Mathematics for Computing (S1, S2, SS)				
		COMP507 IT Project Management (S1, S2)				
		COMP508 Database System Design (S1, S2)				
		INFS502 Digital Services in IT (S2)	**COMP504** Networks and Internet (S1, S2)	**COMP503** Object Orientated Programming (S1, S2) *Pre-req: COMP500/ENSE501*	**COMP517** Data Analysis (S2)	**COMP503** Object Orientated Programming (S1, S2) *Pre-req: COMP500/ENSE501*
Year 2	MAJOR	**INFS603** Needs Analysis, Acquisition and Training (S1)	**COMP604** Operating Systems (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*
		INFS604 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*
		INFS605 Microservices (S2)	**COMP609** Network and System Administration (S1) *Pre-req: COMP504 or ENEL504*	**COMP602** Software Development Practice (S1, S2) *Pre-req: COMP603 or COMP610* (or) **COMP612** Computer Graphics Programming (S2) *[MATH503 or MATH502] and [COMP603 or COMP610]*	**STAT603** Forecasting (S2) *Pre-req: MATH502 or MATH503*	**COMP612** Computer Graphics Programming (S2) *Pre-req: [MATH503 or MATH502] and [COMP603 or COMP610]*
		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 (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]*	**COMP613** Combinatorics and Graph Theory *(S1) Pre-req: COMP500 and [MATH502 or MATH503]*
Year 3	CORE	**COMP702** Research and Development Project (Part 1) (S1, S2)				
		COMP703 Research and Development Project (Part 2) (S1, S2)				
	MAJOR	**INFS704** Service Innovation and Design (S1)	**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*
		COMP718 Information Security Management (S1)	**COMP714** Advanced Network Technologies (S2) *Pre-req: COMP609* (or) **COMP729** Enterprise Networks (S2) *Pre-req: COMP504/ENEL504*	**ENSE701** Contemporary Issues in Software Engineering (S2) *Pre-req: COMP603 or [COMP610/ENSE600]*	**COMP723** Data Mining and Knowledge Engineering (S2)	**COMP712** Programming Languages (S2) *Pre-req: COMP603/ENSE502*
		COMP728 IoT and Applications (S2) (or) **COMP726** Blockchains and Cryptocurrencies (S2)	**COMP716** Highly Secure Systems (S1) *Pre-req: COMP611 or [ENGE501 and COMP610]* (or) **COMP718** Information Security Management (S1)	**COMP721** Web Development (S1) *Pre-req: COMP603/ENSE600* (or) **COMP710** Game Programming *Pre-req: COMP612* (S2) (or) **COMP713** Distributed and Mobile Systems *Pre-req: COMP611* (*not running*)	**COMP700** Text and Vision Intelligence (S2) (or) **COMP701** Nature Inspired Computing (S1) *Pre-req: COMP500*	**COMP719** Applied Human Computer Interaction (S1) (or) **COMP713** Distributed and Mobile Systems *Pre-req: COMP611* (*not running*)

S1: Offered in Semester 1
S2: Offered in Semester 2

SS: Offered in Summer Semester
Pre-req: Prerequisite paper(s)

Note:
COMP612 can only replace COMP602 if COMP710 is also taken.
All courses are 15 points

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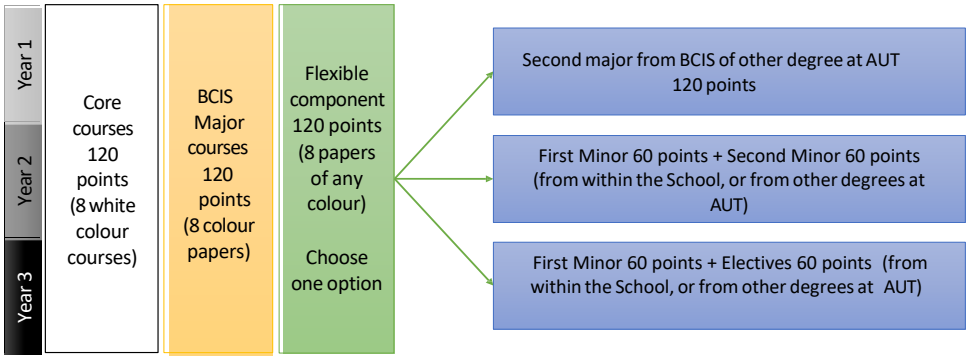
Pathway options (majors/minors)



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.

- **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. Double major students can count COMP503 towards both majors.

- **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).

Please contact the CMS Undergrad team: cmsundergrad@aut.ac.nz for further details.