

Bachelor of Science (Study Plan for Enrolment 2023)

To graduate with a Bachelor of Science you need to complete:

- Core courses (120 points)
- Your chosen major (120 points) and
- One of the following options
 - A second major (120 points)*; or
 - A first minor (60 points) and a second minor (60 points)*; or
 - A minor (60 points) and elective courses (60 points)*

Year 1

Choose one of:

- [DIGD507 Mahitahi | Collaborative Practices](#)
- [SCIE504 Science and Society](#)

And choose one natural sciences course:

- | | |
|---|---|
| <ul style="list-style-type: none"> • ASTR500 Introductory Astronomy • BIOL500 Foundations of Life • BMED500 Introduction to Biomedical Science • CHEM500 Chemistry in Our World • CHEM501 Principles of Chemistry • CHEM502 Biological and Solution Chemistry • CONS500 Biodiversity • EASC500 Our Dynamic Earth • ENVS502 Environmental Science Skills • ENVS503 Our Total Environment • FOOD502 Food Science | <ul style="list-style-type: none"> • FOOD503 Food Technology • GESC500 Mapping Our Environment • HEAL505 Human Anatomy and Physiology • HEAL507 Health and Environment • MAOH501 Hauora Māori and Environment • MASC500 Introduction to Marine Science • MASC501 Marine Science Techniques • MELS501 Histology and Cytology • MICR501 Microbial Life • PHYS501 Physics for Scientists and Engineers • SOSC585 Climate Action |
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And one mathematical and computer sciences course:

- [COMP500 Programming Concepts and Techniques*](#)
- [COMP503 Programming II*](#)
- [MATH502 Algebra and Discrete Mathematics](#)
- [MATH504 Introductory Mathematics for Science](#)

- [MATH505 Algebra and Calculus I](#)
- [STAT500 Applied Statistics](#)
- [STAT502 Introductory Probability and Statistics](#)

*Only available to students in the Analytics and Mathematical Modelling and Computation majors

And one course from either the natural sciences or mathematical and computer science courses above.

Year 2

Complete the following course:

- [SCIE606 Vision Mātauranga: Science Practice in Aotearoa](#)

And one of:

- [CHEM604 Instrumental Analysis](#)
- [SCIE600 Scientific Inquiry](#)

Year 3

In Year 3, you complete a project in an area related to your major. This project gives you an important competitive edge for your career, and is good preparation for postgraduate study.

Courses you complete for this project:

- [SCIE707 Science Capstone Project A](#)
- [SCIE708 Science Capstone Project B](#)

MAJOR FOR BACHELOR OF SCIENCE

Analytics Major		
BCS Major: Complete all courses listed below		
MATH505	Algebra and Calculus I	S1
STAT502	Introductory Probability and Statistics	S2
STAT603	Forecasting <small>One of STAT500, STAT502, MATH502, MATH503</small>	S2
STAT604	Statistical Inference <small>STAT502</small>	S1
STAT605	Statistical Data Analysis <small>STAT502</small>	S2
STAT704	Industrial and Business Analytics <small>STAT604 or STAT605</small>	S2
STAT705	Multivariate Data Analysis <small>MATH505, STAT604</small>	S1
STAT706	Stochastic Modelling <small>MATH505, STAT604 or STAT605</small>	S2

Mathematical Modelling and Computation Major		
BCS Major: Complete all courses listed below		
MATH505	Algebra and Calculus I	S1
STAT502	Introductory Probability and Statistics	S2
MATH605	Algebra and Calculus II <small>MATH505</small>	S2
MATH606	Modelling and Differential Equations I <small>MATH505</small>	S1
MATH607	Quantitative Decision Analysis <small>MATH505, STAT502</small>	S1
MATH707	Mathematical Computation <small>MATH605, MATH606</small>	S1
MATH708	Modelling and Differential Equations II <small>MATH605, MATH606</small>	S1
Choose one of:		
MATH700	Financial Modelling and Computation <small>MATH607</small>	S2
MATH709	Mathematical Modelling in Health and Biology <small>MATH605, STAT502</small>	S2

PATHWAY FOR BACHELOR OF SCIENCE

ANALYTICS MAJOR

SINGLE MAJOR, FLEXIBLE COMPONENT

	Semester 1				Semester 2			
YEAR 1	DIGD507	<u>Mathematical and Computer Sciences</u>	MATH505	MINOR / ELECTIVE	<u>Natural Sciences course</u>	<u>Natural Sciences course OR Mathematical and Computer Sciences</u>	STAT502	MINOR / ELECTIVE
YEAR 2	SCIE606	STAT604	MINOR / ELECTIVE	MINOR / ELECTIVE	CHEM604 OR SCIE600	STAT603	STAT605	MINOR / ELECTIVE
YEAR 3	SCIE707 - L7 CAPSTONE	STAT705	MINOR / ELECTIVE	MINOR / ELECTIVE	SCIE708 - L7 CAPSTONE	STAT704	STAT706	MINOR / ELECTIVE

DOUBLE MAJOR

	Semester 1				Semester 2			
YEAR 1	DIGD507	<u>Mathematical and Computer Sciences</u>	MATH505	L5 MAJOR 2	<u>Natural Sciences course</u>	<u>Natural Sciences course OR Mathematical and Computer Sciences</u>	STAT502	L5 MAJOR 2
YEAR 2	SCIE606	STAT604	L6 MAJOR 2	L6 MAJOR 2	CHEM604 OR SCIE600	STAT603	STAT605	L6 MAJOR 2
YEAR 3	SCIE707 - L7 CAPSTONE	STAT705	L7 MAJOR 2	L7 MAJOR 2	SCIE708 - L7 CAPSTONE	STAT704	STAT706	L7 MAJOR 2

MATHEMATICAL MODELLING AND COMPUTATION MAJOR

SINGLE MAJOR, FLEXIBLE COMPONENT

	Semester 1				Semester 2			
YEAR 1	DIGD507	<u>Mathematical and Computer Sciences</u>	MATH505	MINOR / ELECTIVE	<u>Natural Sciences course</u>	<u>Natural Sciences course OR Mathematical and Computer Sciences</u>	STAT502	MINOR / ELECTIVE
YEAR 2	SCIE606	MATH606	MATH607	MINOR / ELECTIVE	CHEM604 OR SCIE600	MATH605	MINOR / ELECTIVE	MINOR / ELECTIVE
YEAR 3	SCIE707 - L7 CAPSTONE	MATH707	MATH708	MINOR / ELECTIVE	SCIE708 - L7 CAPSTONE	MATH700 OR MATH709	MINOR / ELECTIVE	MINOR / ELECTIVE

DOUBLE MAJOR

	Semester 1				Semester 2			
YEAR 1	DIGD507	<u>Mathematical and Computer Sciences</u>	MATH505	L5 MAJOR 2	<u>Natural Sciences course</u>	<u>Natural Sciences course OR Mathematical and Computer Sciences</u>	STAT502	L5 MAJOR 2
YEAR 2	SCIE606	MATH606	MATH607	L6 MAJOR 2	CHEM604 OR SCIE600	MATH605	L6 MAJOR 2	L6 MAJOR 2
YEAR 3	SCIE707 - L7 CAPSTONE	MATH707	MATH708	L7 MAJOR 2	SCIE708 - L7 CAPSTONE	MATH700 OR MATH709	L7 MAJOR 2	L7 MAJOR 2