College of Science

The Degree of Bachelor of Science (BSc)

See also General Course and Examination Regulations.

*** Subject to Universities New Zealand CUAP approval, due December 2016.*

Note: In certain course regulations the Degree of Bachelor of Science is referred to as "the ordinary Degree of Bachelor of Science" to distinguish it from the Degree of Bachelor of Science with Honours.

1. Requirements of the Degree Course

Every candidate for the Degree of Bachelor of Science shall follow a course of study as laid down in these Regulations consisting of not fewer than 360 points (3 EFTS).

2. Structure of the Degree

To qualify for the Degree of Bachelor of Science:

(a) a candidate must pass courses having a minimum total value of 360 points.
(b) at least 255 points of the 360 must be from the Schedule to the Regulations for the Bachelor of Science.
(c) The remaining 105 points of the 360 may be for courses from any degree of the University. They will be subject to the Regulations of the other degree.
(d) at least 225 points must be for courses above 100-level.
(e) at least 90 points must be for courses at 300-level.
(f) at least 60 points of that 90 must be in a single subject from the Schedule to the Regulations for the Bachelor of Science or from a list of specified courses approved for the major requirement.

3. Subject Majors and Endorsements of the Degree**

(a) Subject Majors: the degree of Bachelor of Science may be awarded in the following subjects: Astronomy; Biochemistry; Biological Sciences; Chemistry; Computer Science; Economics; Environmental Science**; Finance; Financial Engineering; Geography; Geology; Linguistics; Management Science; Mathematics; Philosophy; Physics; Psychology; Statistics.
(b) In additional to meeting the requirements of a subject major, the degree of Bachelor of Science may be endorsed in the following subject/s:
    i. Biosecurity
    ii. Biotechnology
    iii. Ecology
    iv. Environmental Science*

** Not open to new enrolments in 2017.*

Note: The course and programme requirements are given in the Schedule of Endorsements for the Award elsewhere in the degree regulations.

4. Workload

Candidates who wish to enrol for a course of study whose total points exceed 150 points for a full year or 75 points for a single semester must first obtain the approval of the Dean of Science.

Note: Students should seek advice from the College office as to the recommended GPA for such a course of study.

5. Direct Entry into 200-level Courses

Subject to the approval of the Dean of Science, a student who has achieved a sufficient standard in a subject or subjects in the National Certificate in Educational Achievement (NCEA) or other comparable examination may be enrolled in one or more courses listed in the Schedule with Prescription numbers from 201 to 299 without having passed the appropriate prerequisite to that course provided that:

(a) if the candidate is credited with the course he or she shall not thereafter be credited with any prerequisite in the subject of which that course forms a part, and
(b) if the candidate fails the course but in the opinion of the examiners attains the standard of a pass in a course at 100 or 200-level he or she shall be credited with a pass in such course or courses as the Dean of Science may decide.

6. Transfer from BE or BE(Hons) Degrees to BSc

A candidate who discontinues with a BE or BE(Hons) degree and enrols in a BSc may make an application to the Dean of Science to transfer credit from a BE or BE(Hons) to a BSc.

7. Cross Credits between BE(Hons) and BSc Degrees

A candidate who takes concurrently the course for the Degree of Bachelor of Science and Bachelor of Engineering (Honours) shall, in order to qualify for the award of both degrees, be enrolled for a course of study approved under the provisions of General Course and Examination Regulation A3, and shall:

(a) pass all the subjects laid down in the current Regulations for the Degree of Bachelor of Engineering (Honours);
(b) obtain 180 points above 100-level by passing courses selected from the Schedule to the Regulations for the Bachelor of Science which have not been credited to the Degree of Bachelor of Engineering (Honours), or used to obtain exemption from a course in that degree. Of these points, 90 must be from 300-level courses and include at least 60 points from a single subject or as required by the subject major;
(c) if admitted into the Bachelor of Engineering (Honours) under BE(Hons) Regulation 4 Prior Learning to the First Professional Year, complete the 180 points in (b) above. A student may be required to complete 100-level prerequisite courses from the Science Schedule, if their New Zealand Entrance qualification was not in appropriate subjects;
(d) have met the requirements of a BE(Hons) to be eligible to graduate BSc under this cross credit regulation.

8. Course for BSc after Completion of BE(Hons) Degree

A candidate who has qualified for the Degree of Bachelor of Engineering (Honours) and who is proceeding to the Degree of Bachelor of Science shall be enrolled for an approved course of study and shall satisfy the requirements of Regulation 7 hereof.

9. Restrictions and Prerequisites from Engineering Courses

Candidates for the Degree of Bachelor of Science under Regulations 6, 7 or 8 shall require permission of the Head of the Department of Mathematics and Statistics for enrolment in any Mathematics or Statistics course.

Note: Some Mathematics and Statistics courses duplicate significantly material in Engineering Mathematics, and will be restricted. Other courses may have prerequisites partially or fully satisfied by credits in Engineering Mathematics.

10. Cross Credits and Substitution between BSc and BForSc Degrees

(a) A candidate for the Degree of Bachelor of Science who is or has been enrolled for the Degree of Bachelor of Forestry Science shall, in order to qualify for the award of both degrees, meet all requirements as laid down in the Regulations of the Degree of Bachelor of Forestry Science and obtain 180 points above 100-level in courses selected from the Schedule to the Regulations for the Degree of Bachelor of Science which have not been credited to the Degree of Bachelor of Forestry Science or used to obtain exemption from a course in that degree. Of these points, 90 points must be from 300-level courses and include at least 60 points from a single subject or as required by the subject major.
(b) With the approval of the Dean of Engineering and Forestry a candidate may substitute an additional 200-level course equivalent to 15 points or a 300-level course equivalent to 15 points from the Bachelor of Science schedule for any FORE 400 elective.
(c) A candidate shall have met the requirements of a BForSc to be eligible to graduate BSc under this cross credit regulation.

11. Credit for Other Tertiary Level or Non-University Courses

(a) The Academic Board may grant credit towards the degree from any other tertiary qualification where the content and standard of such study are considered appropriate to the degree. Credit may be specified or unspecified, and will be at an appropriate level. Credit from a completed degree will not exceed a maximum of 120 points. Credit from an incomplete degree, diploma or other tertiary qualification will not exceed 240 points.
(b) National qualifications registered on the New Zealand Qualifications Framework which could properly be taught at university degree level may be considered for credit on the following basis:

National Diploma of Science, at Levels 5 and 6, or equivalent science qualification, and courses for incomplete qualifications: points will be assigned on the basis of the courses credited gained at Levels 5, 6 and 7. Completed qualifications at Level 7 will be credited as a maximum of 120 points.

Note: The maximum of 120 points must be consistent with credit under Regulation K: Cross Crediting and Double Degrees.

12. Credit for Polytechnic Nursing Qualifications

A candidate who has completed a Polytechnic Nursing course may be credited with up to 75 points at 100-level under Regulation 2(c).

Schedule A to the Regulations for the Degree of Bachelor of Science

For full course information, go to www.canterbury.ac.nz/courses

Astronomy

100-level

Required: ASTR 112, PHYS 101, PHYS 102, MATH 102, MATH 103. PHYS 101 is offered in Semesters 1 and 2 and PHYS 102 is offered in Semester 2 and as a Summer Course.

Strongly recommended: MATH 170 or EMTH 171 or COSC 121.

200-level

Required: (1) ASTR 211 or ASTR 212; (2) PHYS 285; (3) 45 points from PHYS 201–209; (4) MATH 201.

Strongly recommended: MATH 202 and/or MATH 203.

300-level

Required: (1) ASTR 323 or ASTR 325; (2) PHYS 310, ASTR 381; (3) 15 points from PHYS 311–313.

Note: A student who has taken PHYS 204 is exempt from taking PHYS 310, but must select an additional 15 points from PHYS 301–379, ASTR 301–379.

Required for postgraduate: Students intending to proceed to BSc(Hons) or MSc in Physics, Medical Physics or Astronomy should take (1) an additional two courses from 300-level PHYS or ASTR; and (2) an additional two courses from 300-level MATH or STAT. All advancing students should take PHYS 311, PHYS 313 and PHYS 326.

Biochemistry*

** Subject to Universities New Zealand CUAP approval, due December 2016.*

100-level

Required: BIOL 111 and BCHM 112 (CHEM 112).

Recommended: BIOL 112, BIOL 113 and CHEM 111.

200-level

Required: BCHM 202 (BIOL 231), BCHM 222, BCHM 212 (CHEM 212), BCHM 253 (BIOL 253) and either BCHM 281 or CHEM 281.

Recommended: BCHM 206 (CHEM 242).

300-level

Required: BCHM 301 (BIOL 331) and BCHM 302 (CHEM 325).

Required for postgraduate study: BCHM 381.

Recommended for honours: At least one of CHEM 321-382, BIOL 313, BIOL 330, BIOL 351, BIOL 353, BIOL 354.

Biological Sciences

100-level

Required: BIOL 111 and BIOL 112 and BIOL 113 and STAT 101 (or an excellence endorsement in NCEA Level 3 Mathematics).

Recommended: 15 points of 100-level Chemistry; and 15 points of 100-level Mathematics. Students who have not taken chemistry in Year 13 should take 100-level Chemistry (eg, CHEM 114). Students who have not taken mathematics with calculus in Year 13 should take 100-level Mathematics (eg, MATH 101).

200-level

Required: BIOL 209, or equivalent background (eg, STAT 201/222 or PSYC 206).

Required for honours: Biotechnology: BIOL 252 or BIOL 254, and as specified below.

300-level

Required: At least 60 points of 300-level Biological Sciences (not including BIOL 309).

Required for honours: At least 90 points of 300-level Biological Sciences including courses as specified below:

Biotechnology: BIOL 352 and at least 45 points from BIOL 313, BIOL 330, BIOL 333, BIOL 335, BIOL 331

Cellular and Molecular Biology: at least 60 points from BCHM 301, BIOL 313, BIOL 330, BIOL 333, BIOL 335, BIOL 331, BIOL 351, BIOL 352

Ecology: 60 points from BIOL 370–384; and BIOL 309 or equivalent

Microbiology: BIOL 313 and at least 45 points from BIOL 330, BIOL 333, BIOL 335, BIOL 331, BIOL 352

Plant Biology *(Not open to new enrolments in 2017)*: 60 points in 300-level BIOL courses

Zoology *(Not open to new enrolments in 2017)*: 60 points in 300-level BIOL courses.

Students who are considering 400-level study should normally have gained 90 points in 300-level BIOL.

Students admitted to the honours programme or intending to proceed to a master's degree should consider including BIOL 309 (or equivalent).

Chemistry

100-level

Required: CHEM 111 and CHEM 112 (BCHM 112).

200-level

Required: CHEM 211, either CHEM 212 or BCHM 212, and 30 points from CHEM 241–255, BCHM 206.

300-level:

Required: 60 points from CHEM 300-level courses.

Students wishing to pursue a career in Chemistry are advised to take at least 60 points from CHEM 321–373 courses, and either CHEM 381 or CHEM 382.

Students should also note that entry into the MSc degree programme in Chemistry requires at least 60 points from CHEM 321–373 courses and either CHEM 381 or CHEM 382.

Laboratory Courses:

Required: 22 points from CHEM 281–282, BCHM 281, CHEM 381–382.

Computer Science

100-level

Required: COSC 121, COSC 122, MATH 120, STAT 101.

Recommended: COSC 110 or COSC 101.

200-level

Required: COSC 261 and a further 30 points selected from the following list of courses: all COSC 200-level courses, ENCE 260, SENG 201.

300-level

Required: At least 60 points from the following list of courses: all COSC 300-level courses (except COSC 366), ENCE 360, ENCE 361, SENG 301, SENG 302, SENG 365.

Economics

Students who have not been credited with the MATH or STAT prerequisite courses shown in the Course Catalogue may be admitted to courses if they have reached a standard satisfactory to the Head of Department in the prerequisites of other approved courses. Refer to the Economics Department for further information.

100-level

Required: ECON 104 and ECON 105.

Recommended: MATH 102 and MATH 103 and STAT 101.

Required for honours: MATH 102 and STAT 101.

200-level

Required:

i. ECON 202 or ECON 207; and
ii. ECON 203 or ECON 208; and
iii. ECON 201 or ECON 206.

300-level

Required: At least 60 points of 300-level Economics.

Required for honours: ECON 321, 324 and 326.

Note: Students who enrolled in the BSc prior to 2015 may graduate under the 2014 regulations.

Environmental Science*

** Subject to Universities New Zealand CUAP approval, due December 2016.*

100-level

Required: ENVR 101, GEOG 106, STAT 101 or MATH 102 or equivalent, plus a minimum of 30 points in a second major or as required by that major.

Recommended: SCIM 101.

200-level

Required: ENVR 201, GEOG 206, BIOL 209 or equivalent, plus a minimum of 30 points in a second major or as required by that major.

300-level

Required: ENVR 301, GEOG 309, plus a minimum of 60 points in a second major or as required by that major.

Finance

100-level

Required: (STAT 101 or MSCI 110), MATH 102, and (ACCT 102 or ACIS 102).

Strongly recommended: ECON 104, MATH 103.

200-level

Required: FINC 201 and FINC 203.

Recommended: FINC 205 and ECON 213 or 30 points from 200-level Statistics courses.

300-level

Required: FINC 331 and a further 45 points from 300-level Finance.

Financial Engineering

100-level

Required: COSC 121, COSC 122, ECON 104, MATH 102, MATH 103 and STAT 101.

Recommended: ACCT 102 and INFO 125.

200-level

Required: ECON 213, FINC 201, (FINC 203 or ECON 207), MATH 201, SENG 201, (STAT 211 or STAT 221) and STAT 213.

Recommended: INFO 213.

300-level

Required: (FINC 311 or FINC 312), (FINC 331 or ECON 331) and (STAT 317 or ECON 323). Any other 300-level course from those listed in Schedule B for Financial Engineering.

Geography

100-level

Required: 30 points of 100-level Geography.

200-level

Required: 30 points of 200-level Geography.

300-level

Required: 60 points of 300-level Geography.

Required for postgraduate study: Students intending to proceed to the BA(Hons), MA, BSc(Hons), PGDipSc or MSc degree must have passed:

90 points in 300-level courses approved by the Head of the Department of Geography (including GEOG 309 and at least 30 other points in 300-level Geography courses), or

120 points at 300-level of which 60 points are in Geography and 60 points are in subjects approved by the Head of Department.

Geology

100-level

Required: GEOL 111, and either GEOL 113 or GEOL 115.

Required for honours:

Geology: 60 points from 100-level Astronomy, Biological Sciences, Chemistry, Computer Science, Geography, Mathematics, Physics or Statistics.

200-level

Required: 45 points from 200-level GEOL.

Recommended: GEOL 240 and GEOL 241.

300-level

Required: 60 points from 300-level Geology.

Recommended: GEOL 351 or GEOL 352.

Required for BSc(Hons) in Geology, PGDipSc in Geology, or MSc in Geology or PMEG in Engineering Geology: a minimum of 90 points of 300-level GEOL, including GEOL 351 and GEOL 352 (105 points are recommended). At least 15 points each of 100-level MATH and 100-level STAT, or a demonstrably equivalent standard in Mathematics, are a prerequisite for entry to 400-level ENGE.

Linguistics

Students intending to complete the BSc with a major in Linguistics must be credited with at least 135 points in Linguistics, which must include the following:

100-level

Required: LING 101 and either LING 102 or LING 103.

200-level

Required: LING 215, LING 216 and LING 217.

300-level

Required: At least 60 points of 300-level Linguistics, including at least one of LING 306 or LING 307.

Required for postgraduate study: An average grade of at least B in all Linguistics courses

beyond 100-level. Candidates should have at least 15 points in a language other than English. The required 15 points in a language other than English may be satisfied by proficiency in a language other than English at the discretion of the Programme Coordinator.

Management Science

This subject will be discontinued. No new enrolments will be accepted into this major or minor. Students continuing in this subject should contact the College of Science Student Advisor.

100-level

Required: MSCI 101; STAT 101 or MSCI 110.

Recommended: 15-30 points of 100-level Mathematics; MGMT 100, ECON 104 and ECON 105.

200-level

Required: At least 30 points of 200-level MSCI.

300-level

Required: At least 60 points of 300-level MSCI.

Mathematics

100-level

Required: MATH 103, MATH 109 or MATH 199.

200-level

Required: 45 points from MATH 201, MATH 202, MATH 203, MATH 220 and MATH 240 (including MATH 201 and at least one of MATH 202 or MATH 203).

Note: EMTH 210 may replace MATH 201, and, EMTH 211 may replace MATH 203.

300-level

Required: 60 points from MATH 301–394.

Required for honours: An additional 30 points from MATH 301–394 or STAT 301–394 or other approved courses.

Recommended for honours: MATH 343.

Philosophy

100-level

Recommended: 30 points of 100-level Philosophy (or equivalent).

Note: MATH 130 may be counted as Philosophy points towards a BSc in Philosophy.

200-level

Required: At least 45 points of 200-level Philosophy (or equivalent) including PHIL 233. Students may include HAPS 201, HAPS 202, HAPS 203, or HAPS 210.

300-level

Required: At least 60 points of 300-level Philosophy (or equivalent), including at least one of PHIL 305, PHIL 310, PHIL 311, or PHIL 317. Students may include HAPS 302 or HAPS 310.

Physics

100-level

Required: PHYS 101, PHYS 102, MATH 102, MATH 103. PHYS 101 is offered in Semesters 1 and 2 and PHYS 102 is offered in Semester 2 and as a Summer Course.

Strongly recommended: MATH 170 or EMTH 171 or COSC 121.

200-level

Required: (1) PHYS 285; (2) 45 points from PHYS 201–209; (3) MATH 201.

Strongly recommended: MATH 202 and/or MATH 203.

300-level

Required: PHYS 310, PHYS 311, PHYS 313, PHYS 381.

Notes:

1. *A student who has taken PHYS 204 is exempt from taking PHYS 310, but must select an additional 15 points from PHYS 301–79, ASTR 301–379;*
2. *A student may be permitted by the HOD to obtain a double major in Physics and Mathematics with PHYS 381 replaced by PHYS 326 as a required course.*

Required for postgraduate: Students intending to proceed to BSc(Hons) or MSc in Physics, Medical Physics or Astronomy should take (1) an additional two courses from 300-level PHYS or ASTR; and (2) an additional two courses from 300-level MATH or STAT. All advancing students should take PHYS 326.

Psychology

100-level

Required: PSYC 105 (15 points) and PSYC 106 (15 points).

200-level

Required: PSYC 206 (15 points) and at least three courses from PSYC 207–213 (15 points each).

300-level

Note: With the permission of the Head of Department, students who have a double major in

Psychology and a second related subject may graduate with a minimum of 60 points in PSYC 300-level courses.

Required: 75 points of 300-level PSYC courses.

PSYC 344 is required for postgraduate study in Psychology and Applied Psychology.

PSYC 336 (or equivalent) is required for MSc in Applied Psychology.

PSYC 335 (or equivalent) is required for Postgraduate Diploma in Clinical Psychology.

Statistics

100-level

Required: MATH 103 or MATH 199.

200-level

Required: 45 points from STAT 201–294.

300-level

Required: At least 60 points from STAT 301–394.

Required for entry to honours: An additional 30 points from MATH 301–394 or STAT 301–394, or other approved courses.

Schedule B to the Regulations for the Degree of Bachelor of Science

For full course information, go to www.canterbury.ac.nz/courses

Accounting

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
ACCT 311	Financial Accounting Theory	15	S1	P: ACCT 211 R: AFIS 301, ACIS 311, AFIS 311, AFIS 501.

Antarctic Studies

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
ANTA 101	Antarctica	15	SU2	R: INCO 103, ANTA 102 and ANTA 103, ANTA 112 and ANTA 113
ANTA 102	Antarctica: The Cold Continent	15	S1	R: INCO 103, ANTA 101, ANTA 112
ANTA 103	Antarctica: Life in the Cold	15	S2	R: INCO 103, ANTA 101, ANTA 113
ANTA 201	Antarctica and Global Change	15	S2	P: ANTA 101, or ANTA 102 and ANTA 103 or ANTA 112 and ANTA 113.

Astronomy

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
ASTR 109	The Cosmos: Birth and Evolution	15	NO	R: (1) PHYS 109. (2) Students who have been credited with ASTR 112 cannot subsequently be credited with ASTR 109. EQ: PHYS 109
ASTR 112	Astrophysics	15	S1	
ASTR 211	Imaging the Universe	15	S2	P: 30 points from ASTR 112, MATH 100-level, STAT 100-level, PHYS 101-102, or PHYS 111. These prerequisites may be replaced by a high level of achievement in NCEA Level 3 Physics and Mathematics with Calculus or other background as approved by the Head of Department.
ASTR 212	Dynamical Astronomy and the Solar System	15	NO	P: 30 points from ASTR 112, MATH 100-level, STAT 100-level, PHYS 101-102, or PHYS 111. These prerequisites may be replaced by a high level of achievement in NCEA Level 3 Physics and Mathematics with Calculus or other background as approved by the Head of Department.
ASTR 323	Stellar Structure and Evolution	15	NO	P: (1) 30 points from PHYS 201-203, ASTR 211-212; and (2) MATH 103 or MATH 109 or EMTH 119 or MATH 201. R: PHYS 323, ASTR 423 RP: MATH 202 EQ: PHYS 323

ASTR 324	Special Topic	15	S2	P: (1) 22 points from PHYS 221-PHYS 224, ASTR 211, ASTR 212; (2) MATH 103 or MATH 109 or equivalent
ASTR 325	The Structure and Evolution of Galaxies	15	NO	P: (1) 30 points from PHYS 201-203, ASTR 211-212; and (2) MATH 103 or MATH 109 or EMTH 119 or MATH 201. R: PHYS 325, ASTR 425 RP: MATH 202 EQ: PHYS 325
ASTR 326	Special Topic	15	S1	P: (1) 22 points from PHYS 221 - PHYS 224, ASTR 211, ASTR 212; (2) MATH 109 or equivalent; (3) Entry subject to the approval of the Head of Department
ASTR 381	Advanced Experiments in Physics and Astronomy	15	S2	P: (1) PHYS 285; (2) 30 points from PHYS 201-206 including either PHYS 202 or PHYS 205). (3) MATH 103 or EMTH 119. R: PHYS 381 RP: MATH 201 EQ: PHYS 381
ASTR 391	Introductory Astronomy Research	15	SU2 S1 S2	P: (1) MATH 103 or MATH 109 or equivalent (2) 44 points from PHYS 200 or ASTR 200 (3) Entry subject to a supervisor approved by the Head of Department, being available R: ASTR 392, ASTR 393

Biochemistry

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
BCHM 112	Structure and Reactivity in Chemistry and Biochemistry	15	S2	P: (1) NCEA: at least 14 credits NCEA Level 3 Chemistry, or (2) CIE: at least D grade in CIE AL Chemistry or A grade in CIE ASL Chemistry, or (3) IB: at least Grade 4 in IB HL Chemistry or Grade 6 in IB SL Chemistry, or (4) CHEM 114, or at least B Grade in BRDG 022. R: CHEM 112 EQ: CHEM 112
BCHM 202	Foundations in Molecular Biology	15	S1	P: BIOL 111 or ENCH 281. R: BIOL 230, BIOL 231, ENCH 480 RP: CHEM 112 or BCHM 112 EQ: BIOL 231
BCHM 206	Organic Chemistry	15	S2	P: CHEM 212 or BCHM 212 R: CHEM 242 EQ: CHEM 242
BCHM 207	Special Topic	15	S1 W	P: Entry subject to approval of the Coordinator, Biochemistry
BCHM 212	Chemical Reactivity	15	S1	P: CHEM 112 or BCHM 112 or ENCH 241 R: CHEM 212 EQ: CHEM 212
BCHM 222	BIOCHEMISTRY B - Metabolism; the reactions of molecules in cells	15	S2	P: BCHM 221 R: BCHM 201, ENCH 323
BCHM 253	Cell Biology I	15	S1	P: 1) BIOL 111 or ENCH 281 and 2) 15 pts of CHEM at 100 level. R: BIOL 253 EQ: BIOL 253
BCHM 281	Practical Biochemistry	15	S2	P: CHEM 111 or CHEM 112 or BCHM 112 or CHEM 114. R: CHEM 281
BCHM 301	Biochemistry 3	30	W	P: (1) Either BCHM 201 or BCHM 221 and BCHM 222; (2) BCHM 202 or BIOL 231. R: BIOL 331 EQ: BIOL 331

BCHM 302	Biological Chemistry	30	W	P: Either (1) 30 points from BCHM 206 or BCHM 212 or CHEM 212 or CHEM 242; or (2) BCHM 221 and BCHM 222 and either BCHM 212 or CHEM 212. R: CHEM 325 EQ: CHEM 325
BCHM 303	Special Topic	15	W	P: Entry subject to approval of the Coordinator, Biochemistry.
BCHM 304	Special Topic	15	W	P: Entry subject to approval of the Coordinator, Biochemistry
BCHM 335	Biochemical and Environmental Toxicology	15	S2	P: (1) CHEM 244 or CHEM 211 or CHEM 281 or BCHM 281, (2) BIOL 111 R: BCHM 302; CHEM 325 RP: CHEM 112 or BCHM 112
BCHM 381	Biochemical Techniques	15	S2	P: BCHM 201 (if taken prior to 2005) or BCHM 281 or CHEM 281

Biological Sciences

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
BIOL 111	Cellular Biology and Biochemistry	15	S1	R: ENCH 281
BIOL 112	Ecology, Evolution and Conservation	15	S2	
BIOL 113	Diversity of Life	15	S1	
BIOL 115	Fundamentals of Biology	15	NO	P: Entry at the approval of the Head of School. This course is intended for students who have completed the requirements for BIOL 111 and/or BIOL 113 but who have not attained a level of achievement that allows them to proceed to 200 level.
BIOL 116	Human Biology	15	S2	
BIOL 203	Introduction to Forensic Biology	15	NO	P: BIOL 111 or ENCH 281. R: BIOL 303 RP: 15 points of 100 level CHEM
BIOL 209	Introduction to Biological Data Analysis	15	S1	P: STAT 101 and 15 points of 100 level BIOL
BIOL 210	Vertebrate Biology	15	S2	P: BIOL 113
BIOL 211	Insect Biology	15	NO	P: BIOL 113
BIOL 212	Marine Biology and Ecology	15	S1	P: BIOL 112 and BIOL 113
BIOL 213	Microbiology and Genetics	15	S2	P: BIOL 231 or BCHM 202. RP: CHEM 112 or BCHM 112 or CHEM 114
BIOL 215	Plant Diversity and Systematics	15	S2	P: BIOL 113, or with the approval of the Head of School. RP: BIOL 271
BIOL 231	Foundations in Molecular Biology	15	S1	P: BIOL 111 or ENCH 281. R: BCHM 202, ENCH 480, BIOL 230 RP: CHEM 112 or BCHM 112 or CHEM 114 EQ: BCHM 202, ENCH 480
BIOL 250	Principles of Animal Physiology	15	S1	P: BIOL 111 or ENCH 281
BIOL 251	Exercise and Health	15	NO	P: BIOL 111 or BIOL 116 or ENCH 281. Students with other appropriate preparation may be admitted to this course with the approval of the Head of the School of Biological Sciences.
BIOL 253	Cell Biology I	15	S1	P: 1) BIOL 111 or ENCH 281 and 2) 15 pts of CHEM at 100 level R: BCHM 253 EQ: BCHM 253

BIOL 254	Principles of Plant Physiology	15	S2	P: BIOL 111 or ENCH 281 R: BIOL 252
BIOL 270	Ecology	30	S1	P: BIOL 112 R: FORE 202
BIOL 271	Evolution	15	S1	P: BIOL 112
BIOL 272	Principles of Animal Behaviour	15	S2	P: BIOL 112 or PSYC 105
BIOL 273	New Zealand Biodiversity and Biosecurity	15	S2	P: BIOL 112 OR BIOL 113 R: BIOL 114
BIOL 304	Special Topic	15	NO	P: Entry subject to approval by the Head of School.
BIOL 305	Practical Field Botany	15	SU1	P: BIOL 215 or BIOL 270 or BIOL 273 or subject to approval by the Head of the School of Biological Sciences
BIOL 306	Special Topic	15	W	P: Entry subject to approval by the Head of School.
BIOL 307	Special Topic	15	A S1 S2	P: Entry subject to approval by the Head of School.
BIOL 308	Special Topic	30	A S1 S2	P: Entry subject to approval by the Head of School.
BIOL 309	Experimental Design and Data Analysis for Biologists	15	S2	P: BIOL 209 or other statistical background as determined by the Head of School.
BIOL 313	Advanced Molecular and Industrial Microbiology	15	S2	P: BIOL 213 and either BIOL 231 or BCHM 202. RP: BIOL 253
BIOL 331	Biochemistry 3	30	W	P: (1) BCHM 201, or BCHM 221 and BCHM 222; (2) BCHM 202 or BIOL 231 R: PAMS 308, BCHM 301 EQ: BCHM 301
BIOL 332	Genetics and Evolution of Invasive Species	15	S2	P: BIOL 271
BIOL 333	Molecular Genetics	15	S1	P: BIOL 231/BCHM 202. R: BIOL 330 RP: BIOL 213
BIOL 334	Evolutionary Genetics	15	S2	P: BIOL 271 R: BIOL 330
BIOL 335	Bioinformatics and Genomics	15	S1	P: 30 points from: BIOL 209, BIOL 231, BIOL 253, BCHM 253, BIOL 271, BCHM 221, BCHM 222, BCHM 202, BIOL 213, COSC 261, COSC 262, COSC 265, 200 level MATH, 200 level STAT. Students with no Biology/Biochemistry papers require permission from the Head of School. R: BIOL 330 RP: BIOL 333 or BIOL 334
BIOL 351	Cell Biology 2	15	S2	P: BIOL 253 or BCHM 253.
BIOL 352	Plant Development and Biotechnology	15	S1	P: BIOL 254 or BIOL 253/BCHM 253 or BIOL 231/BCHM 202
BIOL 354	Animal Ecophysiology	15	S2	P: BIOL 250
BIOL 355	Neurons, Hormones and Behaviour	15	S1	P: BIOL 250 RP: BIOL 272
BIOL 371	Evolutionary Ecology	15	S1	P: BIOL 271
BIOL 375	Freshwater Ecosystems	15	S2	P: BIOL 270 and BIOL 209

BIOL 377	Global Change and Biosecurity	15	S1	P: (1) BIOL 270 or FORE 202; (2) BIOL 209 or FORE 222/ FORE 224
BIOL 378	Population Ecology and Conservation	15	S1	P: (1) BIOL 270 or FORE 202; (2) BIOL 209 or FORE 222/ FORE 224
BIOL 383	Behaviour	15	S1	P: (1) BIOL 272; (2) BIOL 209 or equivalent preparation in statistics. R: BIOL 373 RP: BIOL 271
BIOL 384	Marine Ecosystems	15	S2	P: (1) BIOL 270 and (2) BIOL 209 or PSYC 206. R: BIOL 374 RP: BIOL 212

Biosecurity

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
BIOS 201	Issues in New Zealand Biosecurity	15	SU1	P: 60 points at 100-level R: BIOS 101

Chemistry

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
CHEM 111	Chemical Principles and Processes	15	S1 S2	P: (1) NCEA: at least 14 credits NCEA Level 3 Chemistry, or (2) CIE: at least D grade in CIE AL Chemistry or A grade in CIE ASL Chemistry, or (3) IB: at least Grade 4 in IB HL Chemistry or Grade 6 in IB SL Chemistry, or (4) CHEM 114, or at least B Grade in BRDG 022.
CHEM 112	Structure and Reactivity in Chemistry and Biochemistry	15	S2	P: (1) NCEA: at least 14 credits NCEA Level 3 Chemistry, or (2) CIE: at least D grade in CIE AL Chemistry or A grade in CIE ASL Chemistry, or (3) IB: at least Grade 4 in IB HL Chemistry or Grade 6 in IB SL Chemistry, or (4) CHEM 114, or at least B Grade in BRDG 022. R: BCHM 112 EQ: BCHM 112
CHEM 114	Foundations of Chemistry	15	S1	R: (1) NCEA: 14 credits NCEA Level 3 Chemistry, or (2) CIE: at least D grade in CIE AL Chemistry or A grade in CIE ASL Chemistry, or (3) IB: at least Grade 4 in IB HL Chemistry or Grade 6 in IB SL Chemistry, or (4) at least B Grade in BRDG 022.
CHEM 211	Molecules	15	S1	P: CHEM 111
CHEM 212	Chemical Reactivity	15	S1	P: CHEM 112 or BCHM 112 or ENCH 241 R: BCHM 212 EQ: BCHM 212
CHEM 241	Inorganic Chemistry	15	NO	P: CHEM 211
CHEM 242	Organic Chemistry	15	S2	P: CHEM 212 or BCHM 212 R: BCHM 206 EQ: BCHM 206
CHEM 243	Molecules and Reactions	15	NO	P: Either (1) CHEM 211, or (2) CHEM 111 and PHYS 102
CHEM 244	Applied Analytical Chemistry for Environmental Sciences	15	NO	P: CHEM 111. R: CHEM 211, CHEM 281, BCHM 281 RP: CHEM 112 or BCHM 112
CHEM 251	Foundations of Materials Science and Nanotechnology	15	S2	P: CHEM 211 or CHEM 111 and PHYS 102
CHEM 255	Contemporary Chemistry: Technology, Environment, and Health	15	S2	P: 30 points from CHEM 111, CHEM 112, BCHM 112, CHEM 211 and CHEM 212. RP: CHEM 281

CHEM 281	Practical Chemistry	15	S1	P: CHEM 111 or CHEM 112 or BCHM 112 R: BCHM 281
CHEM 321	Advanced Inorganic Chemistry: From Structure to Function	30	W	P: CHEM 211 and CHEM 241. RP: CHEM 212 or BCHM 212
CHEM 322	Organic Chemistry	30	W	P: 30 points from BCHM 206 or BCHM 212 or CHEM 212 or CHEM 242.
CHEM 324	Analytical and Environmental Chemistry	30	W	P: Either (1) CHEM 211 and CHEM 243, or (2) CHEM 211 and either CHEM 281 or BCHM 281; or (3) CHEM 244.
CHEM 325	Biological Chemistry	30	W	P: Either (1) 30 points from BCHM 206 or BCHM 212 or CHEM 212 or CHEM 242; or (2) BCHM 221 and BCHM 222 and either BCHM 212 or CHEM 212. R: BCHM 302
CHEM 327	Special Topic	15	S1 S2	P: Entry subject to approval of the Head of Department.
CHEM 328	Special Topic	15	S1 S2	P: Entry subject to approval of the Head of Department.
CHEM 333	Materials and Interactions	15	S1	P: CHEM 243
CHEM 343	Advances in Chemical Technology	15	S2	P: CHEM 243
CHEM 381	Advanced Synthetic Techniques	15	S1	P: CHEM 281 or BCHM 281
CHEM 382	Instrumental Methods	15	S2	P: CHEM 281 or BCHM 281

Communication Disorders

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
CMDS 113	Introduction to Communication Disorders	15	S1	R: CMDS 111 and CMDS 112
CMDS 161	Anatomy and Physiology of the Speech and Hearing Mechanism	15	SU2	
CMDS 162	Neuroscience of Swallowing and Communication	15	S2	R: CMDS 667
CMDS 231	Clinical Phonetics	15	S1	R: CMDS 661
CMDS 243	Introduction to Audiologic Assessment and Management	15	S1	R: CMDS 663

Computer Science

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
COSC 101	Working in a Digital World	15	S1	R: COSC 110, DIGI 101 EQ: DIGI 101
COSC 121	Introduction to Computer Programming	15	S1 S2	R: COSC 123
COSC 122	Introduction to Computer Science	15	SU2 S2	P: COSC 121. R: COSC 112, CMIS 112 RP: COSC 121
COSC 241	Special Topic	15	NO	P: Entry subject to approval by the Head of Department.
COSC 242	Special Topic	15	NO	P: Entry subject to approval by the Head of Department.
COSC 243	Special Topic	15	NO	P: Entry subject to approval by the Head of Department.
COSC 261	Formal Languages and Compilers	15	S1	P: COSC 121 and COSC 122 and MATH 120 R: COSC 202, COSC 222
COSC 262	Algorithms	15	S1	P: (1) COSC 121; (2) COSC 122; R: COSC 202, COSC 229, COSC 329 RP: MATH 120

COSC 264	Introduction to Computer Networks and the Internet	15	S2	P: (1) COSC 121; (2) COSC 122; (3) STAT 101 or EMTH 119 R: COSC 227, COSC 231
COSC 265	Relational Database Systems	15	S2	P: COSC 121 or INFO 125 R: COSC 205, COSC 226
COSC 362	Data and Network Security	15	S2	P: COSC 264 or INFO 333. R: COSC 332, ACIS 323, AFIS 323 RP: It is recommended that COSC 362 and COSC 364 be taken together.
COSC 363	Computer Graphics	15	S1	P: (1) ENCE 260, (2) 30 points of 200-level Computer Science, (3) 15 points of 100-level MATH/STAT/EMTH (MATH 120) recommended). MATH 101 is not acceptable.
COSC 364	Internet Technology and Engineering	15	S1	P: COSC 264, ENCE 260 R: COSC 331
COSC 366	Research Project	15	SU2	P: (1)45 points of 200-level Computer Science (2) 30 points from Mathematics, Statistics or Engineering Mathematics or 15 points of Math/Stat (MATH 120 recommended) and COSC 262. MATH 101 is not acceptable. (3) approval of the Head of Department RP: COSC 110 OR COSC 101, ENCE 260, COSC 261, COSC 262, SENG 201
COSC 367	Artificial Intelligence	15	S1	P: COSC 262 R: COSC 329
COSC 368	Humans and Computers	15	S2	P: (1) 45 points of (200-level Computer Science and ENCE 260), (2) 30 points of EMTH or 15 points of MATH/STAT (MATH 120 recommended). MATH 101 is not acceptable. R: COSC 225 RP: COSC 110 OR COSC 101, COSC 263 OR SENG 201
COSC 371	Special Topic	15	NO	P: Subject to approval by the Head of Department.
COSC 372	Special Topic	15	NO	P: Subject to approval by the Head of Department.
ENCE 260	Computer Systems	15	S2	P: COSC 121 or subject to the approval of the Dean of Engineering and Forestry for BE(Hons) students. R: ENEL 206; both COSC 208/ENCE 208 and COSC 221/ENCE 221
ENCE 360	Operating Systems	15	S2	P: ENCE 260. R: COSC 321 RP: COSC 110 or COSC 101, COSC 262.
ENCE 361	Embedded Systems 1	15	S1	P: ENCE 260 R: ENEL 353, ENEL 323, COSC 361, ELEC 361, ENEL 340
SENG 201	Software Engineering I	15	S1	P: (1) COSC 121; (2) COSC 122; (3) 15 points from Mathematics, Statistics, Engineering Mathematics or MSCI 110. MATH 101 is not acceptable. MATH 120/STAT 101 are strongly recommended. R: COSC 263, COSC 324
SENG 301	Software Engineering II	15	S1	P: SENG 201. R: COSC 314, COSC 324 RP: COSC 110 OR COSC 101, ENCE 260.
SENG 302	Software Engineering Group Project	30	W	P: SENG 201. C: SENG 301 R: COSC 325, COSC 314 RP: COSC 110 OR COSC 101, ENCE 260, COSC 368, COSC 265.
SENG 365	Web Computing Architectures	15	S2	P: COSC 265 or two courses out of (INFO 223, INFO 253, INFO 263). R: COSC 365 RP: SENG 201 is strongly recommended.

Economics

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
ECON 104	Introduction to Microeconomics	15	S1 S2	R: ECON 199
ECON 105	Introduction to Macroeconomics	15	S1 S2	
ECON 199	Introduction to Microeconomics	15	X	P: Subject to approval of the Head of Department. R: ECON 104
ECON 206	Intermediate Macroeconomics	15	S2	P: ECON 104 and ECON 105 R: ECON 201
ECON 207	Intermediate Microeconomics - Households and Government	15	S1	P: ECON 104 R: ECON 202, ECON 203
ECON 208	Intermediate Microeconomics - Firms and Markets	15	S2	P: ECON 104 R: ECON 202, ECON 203
ECON 213	Introduction to Econometrics	15	S1	P: (1) ECON 104 or ECON 105; and (2) 15 points from STAT or MSCI 110. R: ECON 214 RP: MATH 101 or Year 13 Math with Calculus.
ECON 214	Special Topic: Data Analytics for Business Economics	15	S1	P: (1) ECON 104 or 105 (2) STAT 101 R: ECON 213
ECON 222	International Trade	15	S1	P: ECON 104
ECON 223	Introduction to Game Theory for Business, Science and Politics	15	SU2	P: Any 105 points
ECON 225	Environmental Economics	15	S2	P: ECON 104
ECON 310	Economic Thinking for Business	15	S2	P: 1) (ECON 207 and ECON 208) or ECON 203 2) ECON 213 or ECON 214
ECON 314	Special Topic: Economic Analysis of "Big Data"	15	S2	P: (1) ECON 105 (2) ECON 213 or ECON 214
ECON 321	Microeconomic Analysis	15	S1	P: 1) ECON 207 or ECON 203; and 2) MATH 102 or MATH 199; and 3) 15 points from STAT RP: ECON 208
ECON 323	Time Series Methods	15	S2	P: (1) ECON 213; and (2) ECON 202 or ECON 207 or FINC 205; and (3) MATH 102 R: FINC 323, STAT 317 EQ: FINC 323, STAT 317
ECON 324	Econometrics	15	S1	P: (1) ECON 213 or STAT 213; and (2) MATH 102 or MATH 199
ECON 325	Macroeconomic Analysis	15	NO	P: (1) ECON 105; and (2) ECON 203 or (ECON 208 and ECON 321) R: ECON 201
ECON 326	Macro and Monetary Economics	15	S2	P: (1) ECON 201 or ECON 206; (2) MATH 102 or MATH 199. RP: ECON 202 or ECON 207
ECON 327	Economic Analysis of Law	15	S1	P: ECON 202 or ECON 207 or ECON 230 or ECON 231
ECON 329	Industrial Organisation	15	S1	P: ECON 207 or ECON 208 or ECON 202 RP: ECON 208
ECON 330	Strategic Behaviour of Firms	15	NO	P: ECON 203 or ECON 208 or ECON 230 or ECON 231
ECON 331	Financial Economics	15	S1	P: ECON 207, FINC 201, MATH 102; R: FINC 331 RP: FINC 205 or MATH 103 EQ: FINC 331
ECON 332	Economics and Psychology	15	NO	P: ECON 202 or ECON 207
ECON 333	Experimental Economics	15	NO	P: ECON 202 or ECON 207 or ECON 230 or ECON 231

ECON 334	Labour Economics	15	NO	P: ECON 208. RP: ECON 206
ECON 335	Public Economics 1	15	S1	P: ECON 207 or ECON 203 RP: ECON 208
ECON 338	Health Economics Overview	15	NO	P: ECON 207 or 202 RP: ECON 208
ECON 339	The Economics of European Integration	15	SU1	P: (1) ECON 104 and ECON 105; and (2) Any 30 points above 100 level; and (3) a further 45 points at any level. R: EURO 339, EURA 339 RP: ENGL 117 or an essay-based course. EQ: EURA 339
ECON 340	Development Economics	15	S2	P: ECON 207 or ECON 208 or ECON 202 RP: ECON 208
ECON 341	Economics of Education	15	NO	P: ECON 202 or ECON 207 or ECON 208
ECON 342	Economic History	15	NO	P: (1) ECON 104; and (2) ECON 105; and (3) ECON 202 or ECON 206 or ECON 207
ECON 343	Economic Analysis of Intellectual Property	15	NO	P: ECON 203 or ECON 208 or ECON 230 or ECON 231 RP: MATH 102 or MATH 199 or MATH 108
ECON 344	International Finance	15	S2	P: ECON 206 or FINC 201 or FINC 203 R: ECON 210 and FINC 315 and FINC 344 RP: 15 points in MATH or Year 13 Math with Calculus EQ: FINC 344
ECON 345	The Economics of Risk and Insurance	15	S1	P: ECON 207 or ECON 202 RP: ECON 208 EQ: FINC 345
ECON 390	Internship or Consultancy Project	15	A	P: (1) ECON 203 or ECON 208 (2) Subject to the Head of Department approval R: FINC 390, ARTS 395, PACE 395

Engineering

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
ENGR 101	Foundations of Engineering	15	S1	
ENGR 102	Engineering Mechanics	15	SU2 S2	P: EMTH 118 C: EMTH 119, PHYS 101

Environmental Science*

** Subject to Universities New Zealand CUAP approval, due December 2016.*

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
BIOL 209	Introduction to Biological Data Analysis	15	S1	P: STAT 101 and 15 points of 100 level BIOL
ENVR 101	Introduction to Environmental Science	15	S2	
GEOG 106	Global Environmental Change	15	S2	R: GEOG 103
GEOG 206	Resource and Environmental Management	15	S2	P: Any 30 points of 100 level geography, or entry with the approval of the Head of Department.
GEOG 309	Research Methods in Geography	30	S2	P: 30 points of 200 level geography, or in special cases with approval of the Head of Department. R: GEOG 204, GEOG 303
MATH 102	Mathematics 1A	15	S1 S2	R: MATH 108, MATH 199, EMTH 118
SCIM 101	Science, Māori and Indigenous Knowledge	15	S2	R: MAOR 172 EQ: MAOR 172

STAT 101	Statistics 1	15	SU2 S1 S2	R: STAT 111, STAT 112 EQ: STAT 111, STAT 112

Note: ENVR 201 and ENVR 301 will be available from 2018 and 2019 respectively.

Finance

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
FINC 101	Personal Finance	15	S1	
FINC 201	Business Finance	15	S1	P: (1) ACCT 102 or MATH 103; and (2) STAT 101 or MSCI 110; and (3) A further 45 points from the BCom or BSc schedules. R: FINC 202, AFIS 204 RP: Students without a mathematics background equivalent to NCEA Level 2 should pass MATH 101 before enrolling in this course. EQ: AFIS 204
FINC 203	Financial Markets, Institutions and Instruments	15	S1	P: (1) STAT 101 or MSCI 110; and (2) A further 60 points from the BCom or BSc schedules. R: AFIS 214 EQ: AFIS 214
FINC 205	Quantitative Finance	15	S2	P: (1) MATH 102 or MATH 108 or MATH 199; and (2) STAT 101 or MSCI 110. RP: MATH 103
FINC 301	Corporate Finance Theory and Policy	15	S2	P: (1) FINC 201 and FINC 203; and (2) MATH 101 or MATH 102 or MATH 108 or MATH 199 R: FINC 354, AFIS 304
FINC 302	Applied Corporate Finance	15	NO	P: (1) FINC 201 and FINC 203; and (2) MATH 101 or MATH 102 or MATH 108 or MATH 199
FINC 305	Financial Modelling	15	S1	P: (1) FINC 201, FINC 203 and one of (MATH 101 or MATH 102 or MATH 199); or (2) FINC 201 and MATH 103 R: FINC 316
FINC 308	Applied Financial Analysis and Valuation	15	S2	P: FINC 201 and FINC 203 R: FINC 394 and AFIS 314
FINC 311	Investments	15	S1	P: (1) FINC 201, FINC 203 and one of (MATH 101 or MATH 102 or MATH 199); or (2) FINC 201 and MATH 103 R: FINC 364, AFIS 314
FINC 312	Derivative Securities	15	S1	P: (1) FINC 201, FINC 203 and one of (MATH 101 or MATH 102 or MATH 199); or (2) FINC 201 and MATH 103 R: FINC 612
FINC 316	Fixed Income Securities	15	S2	P: (1) FINC 201 and FINC 203; and (2) MATH 102 or MATH 199 RP: FINC 205
FINC 323	Time Series Methods	15	NO	P: (1) ECON 213; and (2) ECON 202 or ECON 207 or FINC 205; and (3) MATH 102 R: STAT 317, ECON 323 EQ: ECON 323, STAT 317
FINC 331	Financial Economics	15	S1	P: ECON 207, FINC 201, MATH 102; R: ECON 331 RP: FINC 205 or MATH 103 EQ: ECON 331
FINC 344	International Finance	15	S2	P: ECON 206 or FINC 201 or FINC 203 R: FINC 315, ECON 344, ECON 210 RP: 15 points in MATH or Year 13 Math with Calculus EQ: ECON 344

FINC 345	The Economics of Risk and Insurance	15	S1	P: ECON 207 or ECON 202 RP: ECON 208 EQ: ECON 345
FINC 390	Finance Internship	15	NO	P: (1) FINC 201 and FINC 203 (2) Subject to approval of the Head of Department R: ECON 390, ARTS 395
FINC 390	Finance Internship	15	NO	P: (1) FINC 201 and FINC 203 (2) Subject to approval of the Head of Department R: ECON 390, ARTS 395

Financial Engineering

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
COSC 121	Introduction to Computer Programming	15	S1 S2	R: COSC 123
COSC 122	Introduction to Computer Science	15	SU2 S2	P: COSC 121. R: COSC 112, CMIS 112 RP: COSC 121
COSC 262	Algorithms	15	S1	P: (1) COSC 121; (2) COSC 122; R: COSC 202, COSC 229, COSC 329 RP: MATH 120
COSC 367	Artificial Intelligence	15	S1	P: COSC 262 R: COSC 329
ECON 104	Introduction to Microeconomics	15	S1 S2	R: ECON 199
ECON 105	Introduction to Macroeconomics	15	S1 S2	
ECON 207	Intermediate Microeconomics - Households and Government	15	S1	P: ECON 104 R: ECON 202, ECON 203
ECON 208	Intermediate Microeconomics - Firms and Markets	15	S2	P: ECON 104 R: ECON 202, ECON 203
ECON 213	Introduction to Econometrics	15	S1	P: (1) ECON 104 or ECON 105; and (2) 15 points from STAT or MSCI 110. R: ECON 214 RP: MATH 101 or Year 13 Math with Calculus.
ECON 321	Microeconomic Analysis	15	S1	P: 1) ECON 207 or ECON 203; and 2) MATH 102 or MATH 199; and 3) 15 points from STAT RP: ECON 208
ECON 323	Time Series Methods	15	S2	P: (1) ECON 213; and (2) ECON 202 or ECON 207 or FINC 205; and (3) MATH 102 R: FINC 323, STAT 317 EQ: FINC 323, STAT 317
ECON 324	Econometrics	15	S1	P: (1) ECON 213 or STAT 213; and (2) MATH 102 or MATH 199
ECON 331	Financial Economics	15	S1	P: ECON 207, FINC 201, MATH 102; R: FINC 331 RP: FINC 205 or MATH 103 EQ: FINC 331

FINC 201	Business Finance	15	S1	P: (1) ACCT 102 or MATH 103; and (2) STAT 101 or MSCI 110; and (3) A further 45 points from the BCom or BSc schedules. R: FINC 202, AFIS 204 RP: Students without a mathematics background equivalent to NCEA Level 2 should pass MATH 101 before enrolling in this course. EQ: AFIS 204
FINC 203	Financial Markets, Institutions and Instruments	15	S1	P: (1) STAT 101 or MSCI 110; and (2) A further 60 points from the BCom or BSc schedules. R: AFIS 214 EQ: AFIS 214
FINC 205	Quantitative Finance	15	S2	P: (1) MATH 102 or MATH 108 or MATH 199; and (2) STAT 101 or MSCI 110. RP: MATH 103
FINC 305	Financial Modelling	15	S1	P: (1) FINC 201, FINC 203 and one of (MATH 101 or MATH 102 or MATH 199); or (2) FINC 201 and MATH 103 R: FINC 316
FINC 311	Investments	15	S1	P: (1) FINC 201, FINC 203 and one of (MATH 101 or MATH 102 or MATH 199); or (2) FINC 201 and MATH 103 R: FINC 364, AFIS 314
FINC 312	Derivative Securities	15	S1	P: (1) FINC 201, FINC 203 and one of (MATH 101 or MATH 102 or MATH 199); or (2) FINC 201 and MATH 103 R: FINC 612
FINC 331	Financial Economics	15	S1	P: ECON 207, FINC 201, MATH 102; R: ECON 331 RP: FINC 205 or MATH 103 EQ: ECON 331
FINC 345	The Economics of Risk and Insurance	15	S1	P: ECON 207 or ECON 202 RP: ECON 208 EQ: ECON 345
MATH 102	Mathematics 1A	15	S1 S2	R: MATH 108, MATH 199, EMTH 118
MATH 103	Mathematics 1B	15	SU2 S1 S2	P: MATH 102 or EMTH 118 R: MATH 109, MATH 199, EMTH 119
MATH 120	Discrete Mathematics	15	S2	P: 1. MATH 101 or MATH 102 or EMTH 118 or COSC 121 or STAT 101, or 2. NCEA 14 Credits (18 strongly recommended) at level 3 Mathematics, or 3. Cambridge: D at A level or an A at AS level in Mathematics, or 4. IB: 4 at HL or 6 at SL in Mathematics, or 5. Approval of the Head of School based on alternative prior learning. R: MATH 115
MATH 170	Mathematical Modelling and Computation	15	NO	R: MATH 171, EMTH 171 RP: It is strongly recommended that students should have passed EMTH 118 or MATH 102 before taking EMTH 171/MATH 170. A prior or concurrent enrolment in EMTH 119 or MATH 103 is also recommended. If you are taking EMTH 171/MATH 170 concurrently with EMTH 118 or MATH 102, you are likely to experience difficulties and need to put in extra work.
MATH 201	Multivariable Calculus	15	S1	P: MATH 103 or MATH 199 or EMTH 119 R: MATH 261, MATH 264, EMTH 202, EMTH 204, EMTH 210
MATH 202	Differential Equations	15	S2	P: MATH 103 or MATH 199 or EMTH 119 R: MATH 262, MATH 264, EMTH 202, EMTH 204

MATH 203	Linear Algebra	15	S1	P: MATH 103 or EMTH 119 or MATH 199 R: MATH 252, MATH 254, EMTH 203, EMTH 204, EMTH 211
MATH 270	Mathematical Modelling and Computation 2	15	S2	P: (MATH 170 or EMTH 171 or MATH 280 or COSC 121 or Head of School approval) and (EMTH 119 or MATH 103 or MATH 199) R: EMTH 271, MATH 271
MATH 302	Partial Differential Equations	15	S1	P: (MATH 201 and MATH 202) or EMTH 210 R: MATH 361, EMTH 391, EMTH 413
MATH 303	Applied Matrix Algebra	15	S2	P: MATH 203 or EMTH 211. R: MATH 352, EMTH 412
MATH 353	Computational Mathematics and Applications	15	S1	P: 1) Either MATH 201 or EMTH 210; AND 2) One of MATH 202, MATH 203, MATH 240, MATH 270, EMTH 211 or EMTH 271. With the permission of the Head of School a high grade in either MATH 201 or EMTH 210 will suffice. R: EMTH 414
SENG 201	Software Engineering I	15	S1	P: (1) COSC 121; (2) COSC 122; (3) 15 points from Mathematics, Statistics, Engineering Mathematics or MSCI 110. MATH 101 is not acceptable. MATH 120/STAT 101 are strongly recommended. R: COSC 263, COSC 324
SENG 301	Software Engineering II	15	S1	P: SENG 201. R: COSC 314, COSC 324 RP: COSC 110 OR COSC 101, ENCE 260.
STAT 101	Statistics 1	15	SU2 S1 S2	R: STAT 111, STAT 112 EQ: STAT 111, STAT 112
STAT 201	Applied Statistics	15	S1	P: STAT 101 R: FORE 210, STAT 220, FORE 222, STAT 222
STAT 202	Regression Modelling	15	S2	P: STAT 101 R: FORE 210, STAT 220, FORE 224, STAT 224
STAT 211	Random Processes	15	S1	P: STAT 101 and (MATH 102 or EMTH 118); or any one of MATH 103, MATH 199, EMTH 119. R: STAT 216
STAT 213	Statistical Inference	15	S2	P: STAT 101 and (MATH 102 or EMTH 118); or any one of MATH 103, MATH 199, EMTH 119. R: STAT 214
STAT 221	Introduction to Statistical Computing Using R	15	S1	P: STAT 101 and (MATH 102 or EMTH 118); or any one of MATH 103, MATH 199, EMTH 119. R: STAT 218
STAT 314	Bayesian Inference	15	S2	P: One of the following: 1) (MATH 103 or MATH 199 or EMTH 119) and (15 points at 200-level MATH or STAT (or other quantitative 200 level courses by approval of the Head of School)); 2) STAT 211 or STAT 213 or STAT 221.
STAT 315	Multivariate Statistical Methods	15	S1	P: 15 points from (STAT 202 or STAT 213) and a further 15 points from STAT 200-299, or, subject to Head of School approval.
STAT 317	Time Series Methods	15	S2	P: 15 points from STAT 201, STAT 202, STAT 213 and a further 15 points from STAT 200-299, ECON 213, MATH 103, MATH 199 or EMTH 119. R: ECON 323, FINC 323
STAT 318	Data Mining	15	S2	P: i) 15 points from STAT 200 to STAT 299 and ii) a further 15 points from STAT 200 to STAT 299 or COSC 200-299 or any other relevant subject with Head of School approval.

Forestry

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
FORE 102	Forests and Societies	15	S1 S2	P: Head of Department approval to enrol required. R: FORE 101, FORE 103, FORE 104, FORE 111, FORE 121
FORE 111	Trees, Forests and the Environment	15	S1	R: FORE 101, FORE 102, FORE 103, FORE 104, FORE 105, FORE 121
FORE 218	Forest Biology	30	S1	P: 30 points from FORE 111, FORE 121, BIOL 111, BIOL 112, or BIOL 113, or Subject to approval by the Chair Board of Studies R: BIOL 270, FORE 202
FORE 219	Introduction to Silviculture	15	S2	P: BIOL 112 and BIOL 113, or FORE 111, 131 and 141. R: PAMS 202, BIOL 252, FORE 214

Geography

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
GEOG 106	Global Environmental Change	15	S2	R: GEOG 103
GEOG 109	Physical Geography: Earth, Ocean, Atmosphere	15	S1	
GEOG 110	Human Geography: People, Process, Place	15	S1	R: GEOG 107
GEOG 201	Environmental Processes: Principles and Applications	15	S1	P: Any 30 points of 100-level Geography, or entry with approval of the Head of Department R: GEOG 201 prior to 2009.
GEOG 202	Globalisation and New Geographies	15	S1	P: Any 30 points of 100 level geography, or entry with the approval of the Head of Department.
GEOG 205	Introduction to Geographic Information Systems	15	S1	P: Any 30 points of 100-level Science, Engineering or Commerce. R: DIGI 205
GEOG 206	Resource and Environmental Management	15	S2	P: Any 30 points of 100 level geography, or entry with the approval of the Head of Department.
GEOG 208	Remote sensing for geospatial analysis	15	S2	P: Any 30 points of 100-level Science, Engineering or Commerce R: GEOG 313
GEOG 211	Environmental Processes: Research Practice	15	S1	P: Any 30 points of 100 level geography, or entry with the approval of the Head of Department. C: GEOG 201 R: GEOG 201 prior to 2009
GEOG 213	Remaking the New Europe	15	SU1	P: Any 30 points of 100-level Geography, or any 90 points approved by the Head of Department. R: EURO 223, EURA 223 EQ: EURA 223
GEOG 244	Special Topic	15	NO	P: Any 30 points of 100 level GEOG, or any 105 points approved by 200 level coordinator
GEOG 245	Special Topic	15	NO	P: Any 30 points of 100 level GEOG, or any 105 points approved by 200 level coordinator
GEOG 305	Environmental Hazards, Risk and Resilience	30	S1	P: 30 points of 200 level geography, or in special cases with approval of the Head of Department.
GEOG 309	Research Methods in Geography	30	S2	P: 30 points of 200 level geography, or in special cases with approval of the Head of Department. R: GEOG 204, GEOG 303
GEOG 310	Weather Systems	15	S2	P: 30 points of 200-level Geography, including GEOG 201, or in special cases with approval of the Head of Department.

GEOG 311	Coastal Studies	15	S1	P: 30 points of 200-level Geography, including GEOG 201, or in special cases with approval of the Head of Department.
GEOG 312	Snow, Ice and Climate	15	S2	P: 30 points of 200-level Geography, including GEOG 201, or in special cases with approval of the Head of Department.
GEOG 321	European Integration From Community to Union	30	S2	P: One of: (a) 15 points with a B average in any Arts subject; or (b) any 15 points in GEOG at 200 level; or (c) 15 points of EURO at 200-level with a B Pass: or (d) 30 points of EURO at 200-level; or (e) any 45 points from the Arts Schedule at 200-level. R: EURO 210, EURO 310, EURA 210, EURA 310 EQ: EURA 310
GEOG 322	Geography of Health	30	S1	P: 30 points of 200-level Geography, or HLTH 201 and HLTH 202, or in special cases with approval of the Head of Department.
GEOG 323	Geospatial Analysis in the Social and Environmental Sciences	15	S2	P: 30 points of 200-level Geography, including GEOG 205, or in special cases with approval of the Head of Department.
GEOG 324	Advanced GIS	15	S1	P: 30 points of 200-level Geography, including GEOG 205, or in special cases with approval of the Head of Department.
GEOG 340	Field Based Geomorphic Applications	15	NO	P: 30 points of 200 level Geography, including GEOG 201, or in special cases with approval of the Head of Department.
GEOG 350	Research Methods in Physical Geography	30	S1 S2	P: A major in Geological Sciences and enrolment in the Frontiers Abroad programme. R: GEOG 211
GEOG 351	Rethinking Development	15	S2	P: Any 30 points of 200 level Geography, or approval of the Head of Department. R: GEOG 212
ARTS 395	Internship	30	SU2	P: Special application and interview, with permission of the Internship Director. RP: Students should attend UC Careers CV writing and interview skills workshops prior to submitting internship application.

Geology

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
GEOL 111	Planet Earth: An Introduction to Geology	15	SU1 S1	R: ENCI 271
GEOL 113	Environmental Geohazards	15	S2	
GEOL 115	The Dynamic Earth System	15	S2	R: GEOL 112 RP: GEOL 111
GEOL 237	Special Topic	15	S1 S2	P: Subject to approval of the Head of Department.
GEOL 240	Field Studies A - Mapping	15	S1	P: (1) GEOL 111, and (2) GEOL 113 or GEOL 115 C: 15 points from any of GEOL 242-246 offered in the same semester
GEOL 241	Field Studies B - Field Techniques	15	S2	P: (1) GEOL 111, and (2) GEOL 113 or GEOL 115 C: 15 points from any of GEOL 242-246 offered in the same semester R: GEOL 231
GEOL 242	Rocks, Minerals and Ores	15	S1	P: (1) GEOL 111, and (2) GEOL 113 or GEOL 115

GEOL 243	Depositional Environments and Stratigraphy	15	S1	P: (1) GEOL 111, and (2) GEOL 113 or GEOL 115
GEOL 244	Structural Geology and Global Geophysics	15	S2	P: (1) GEOL 111, and (2) GEOL 113 or GEOL 115
GEOL 246	Special Topic: Earth Surface Dynamics	15	S2	P: GEOL 111 and either GEOL 113 or GEOL 115. RP: GEOG 109; 100-level statistics or maths
GEOL 331	Principles of Basin Analysis	15	S1	P: GEOL 243 and an additional 15 points from GEOL 242-246. RP: GEOL 242 or GEOL 244.
GEOL 336	Magmatic Systems and Volcanology	15	S2	P: GEOL 232 or GEOL 242 plus one additional course from GEOL 243-GEOL 246.
GEOL 337	Geothermal and Ore Exploration	15	S1	P: GEOL 242 and 15 points from GEOL 243-246.
GEOL 338	Engineering and Mining Geology	15	S2	P: GEOL 242 and GEOL 246
GEOL 339	Special Topic	15	S1	P: Subject to approval of the Head of Department
GEOL 340	Special Topic	15	S1 S2	P: Subject to approval of the Head of Department
GEOL 342	Special Topic	15	S1	P: Subject to approval of the Head of Department
GEOL 343	Special Topic	15	S1 S2	P: Subject to approval of the Head of Department
GEOL 351	Advanced Field Techniques	15	S1	P: (1) GEOL 240 and GEOL 241, and (2) GEOL 243 (3) 30 points from other GEOL 200-level courses. C: 15 points from GEOL 331-357 offered in the same semester.
GEOL 352	Advanced Field Mapping	15	X	P: (1) GEOL 240 and GEOL 241, and (2) GEOL 244 (3) 30 points from other GEOL 200-level courses. C: 15 points from GEOL 331-357 offered in the same semester.
GEOL 354	Geodynamics and Geohazards	15	S1	P: 45 points from GEOL 240-246
GEOL 356	Field-focused Research Methods	30	S1 S2	P: A major in Geological Sciences and enrolment in the Frontiers Abroad programme. This course is not open to University of Canterbury students, or those who have completed GEOL 240-241 or GEOL 351-352. R: Only open to Frontiers Abroad students
GEOL 357	New Zealand Geology and Climate History	15	S2	P: GEOL 244 and GEOL 243 R: GEOL 353

Health Sciences

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
HLTH 101	Introduction to Health Studies	15	S1	
HLTH 201	Health Promotion	15	S2	P: Either 15 points in HLTH or any 45 points
HLTH 301	Evidence in Health	30	S1 S2	P: Either 15 points in HLTH at 200-level or above, or any 45 points at 200-level or above

Linguistics

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
LING 101	The English Language	15	SU2 S1	R: ENGL 123, ENLA 101
LING 102	Language and Society in New Zealand and Beyond	15	S2	R: ENLA 102 EQ: ENLA 102
LING 103	Basics of Language for Language Learners	15	SU1	

LING 104	European Languages in Europe and Beyond	15	S2	R: EULC 104, EURO 104, EURA 104 EQ: EURA 104
LING 210	Language Variation Across Space and Time	15	S2	P: LING 101 or ENLA 101 or LING 102 or ENLA 102 R: LING 203, ENLA 210
LING 215	The Sounds of Speech	15	S1	P: LING 101 or LING 111 or ENGL 123 or ENGL 112 R: CMDS 231
LING 216	Systems of Words and Sounds in Language	15	S2	P: LING 101 or LING 111 or ENGL 123 or ENGL 112 R: LING 207, LING 302
LING 217	Sentence Structure	15	S1	P: LING 101 or LING 111 or ENGL 123 or ENGL 112 R: LING 201, LING 206, LING 211
LING 218	The Expression of Meaning in Language	15	NO	P: LING 101 or LING 111 or ENGL 123 or ENGL 112 or any 15 points in PHIL R: LING 202, PHIL 251 EQ: PHIL 251
LING 219	Language Acquisition	15	NO	P: LING 101 or LING 111 or ENGL 123 or ENGL 112 or relevant background in EDUC or EDED or PSYC with the approval of the Head of Department. R: CMDS 221, LING 205
LING 220	The History of English	15	NO	P: Any 30 points at 100-level R: ENGL 240, ENGL 241, LING 204, LING 214
LING 225	Forensic Linguistics	15	S1	P: 30 points at 100-level or above or relevant professional experience.
LING 304	Historical Linguistics	30	NO	P: LING 201 or LING 211 or LING 206 or LING 207 or LING 215 or LING 216 or LING 217 R: LING 405
LING 306	Topics in Syntactic Theory	30	S2	P: LING 201 or LING 206 or LING 211 or LING 217
LING 307	Topics in Phonetics and Phonology	30	S1	P: LING 201 or LING 207 or LING 211 or LING 215 or CMDS 231 R: LING 301, LING 311
LING 308	Word Meaning	30	NO	P: Any 30 points in LING at 200-level.
LING 309	Topics in Morphology and Word Formation	30	NO	P: LING 201 or LING 206 or LING 211 or LING 216 or LING 217
LING 310	New Zealand English	30	S1	P: LING 210 or LING 215 or LING 216 or LING 217 or ENLA 210 or with permission of Linguistics Head of Department R: ENLA 310
LING 320	History of English	30	S2	P: LING 101. R: LING 220, ENLA 320 RP: Any LING 200 level course
ARTS 395	Internship	30	SU2	P: Special application and interview, with permission of the Internship Director. RP: Students should attend UC Careers CV writing and interview skills workshops prior to submitting internship application.

Management Science*

** Not open to new enrolments in 2017.*

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
MSCI 270	Introduction to Operations and Supply Chain Management	15	S1	P: (1) MGMT 100 or MGMT 170 or MSCI 101; and (2) STAT 101 R: MSCI 220, MGMT 270 EQ: MGMT 270

MSCI 271	Operations Management Processes	15	S2	P: (1) MGMT 100 or MGMT 170 or MSCI 101; and (2) STAT 101 R: MSCI 221, MGMT 271 RP: MGMT 270 or MSCI 270 EQ: MGMT 271
MSCI 281	Business Research Methods	15	S2	P: (1) 15 points STAT; and (2) 15 points of MGMT or MKTG or MSCI or MATH R: MGMT 280, MKTG 280, MSCI 280, MGMT 281 EQ: MGMT 281
MSCI 370	Strategic Operations and Supply Chain Management	15	S1	P: (1) MGMT 270 or MSCI 270; and (2) 30 points at 200-level or above from MGMT, MKTG, MSCI, ACCT, INFO R: MSCI 320, MGMT 370 EQ: MGMT 370
MSCI 371	Purchasing and Supply Chain Management	15	S2	P: (1) MGMT 270 or MSCI 270; and (2) 30 points at 200-level or above from MGMT, MKTG, MSCI, ACCT, INFO R: MSCI 321, MGMT 371 EQ: MGMT 371
MSCI 372	Project Management	15	S1	P: Any 60 points at 200-level or above in Commerce, Science or Engineering R: MSCI 322, MSCI 324, MGMT 372, ACIS 313, INFO 313 EQ: MGMT 372
MSCI 373	Quality Management	15	S2	P: (1) MGMT 270 or MSCI 270; and (2) MGMT 271 or MSCI 271 R: MSCI 323, MGMT 373 EQ: MGMT 373
ARTS 395	Internship	30	SU2	P: Special application and interview, with permission of the Internship Director. RP: Students should attend UC Careers CV writing and interview skills workshops prior to submitting internship application.

Mathematics

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
MATH 101	Methods of Mathematics	15	SU2 S1 S2	R: MATH 199
MATH 102	Mathematics 1A	15	S1 S2	R: MATH 108, MATH 199, EMTH 118
MATH 103	Mathematics 1B	15	SU2 S1 S2	P: MATH 102 or EMTH 118 R: MATH 109, MATH 199, EMTH 119
MATH 120	Discrete Mathematics	15	S2	P: 1. MATH 101 or MATH 102 or EMTH 118 or COSC 121 or STAT 101, or 2. NCEA 14 Credits (18 strongly recommended) at level 3 Mathematics, or 3. Cambridge: D at A level or an A at AS level in Mathematics, or 4. IB: 4 at HL or 6 at SL in Mathematics, or 5. Approval of the Head of School based on alternative prior learning. R: MATH 115
MATH 130	Introduction to Logic and Computability	15	NO	R: MATH 134, PHIL 134, PHIL 138

MATH 170	Mathematical Modelling and Computation	15	NO	R: MATH 171, EMTH 171 RP: It is strongly recommended that students should have passed EMTH 118 or MATH 102 before taking EMTH 171/MATH 170. A prior or concurrent enrolment in EMTH 119 or MATH 103 is also recommended. If you are taking EMTH 171/MATH 170 concurrently with EMTH 118 or MATH 102, you are likely to experience difficulties and need to put in extra work.
MATH 199	AIMS - Advancing in Mathematical Sciences	30	W	P: Subject to approval of the Head of School. R: MATH 102, MATH 103, EMTH 118, EMTH 119.
MATH 201	Multivariable Calculus	15	S1	P: MATH 103 or MATH 199 or EMTH 119 R: MATH 261, MATH 264, EMTH 202, EMTH 204, EMTH 210
MATH 202	Differential Equations	15	S2	P: MATH 103 or MATH 199 or EMTH 119 R: MATH 262, MATH 264, EMTH 202, EMTH 204
MATH 203	Linear Algebra	15	S1	P: MATH 103 or EMTH 119 or MATH 199 R: MATH 252, MATH 254, EMTH 203, EMTH 204, EMTH 211
MATH 220	Discrete Mathematics and Cryptography	15	S1	P: One of MATH 102, MATH 103, MATH 120, MATH 199, EMTH 118 or EMTH 119. R: MATH 221, MATH 231
MATH 230	Logic, Automata, and Computability	15	S2	P: 15 points from MATH 102-199, and a further 15 points from 100 level COSC, EMTH, MATH, PHIL or STAT courses, excluding COSC 110 and MATH 101. R: MATH 208, MATH 308, PHIL 208 (prior to 2014), PHIL 210, PHIL 308 (prior to 2014). EQ: PHIL 210
MATH 240	Analysis and Groups	15	S2	P: MATH 103, MATH 199 or EMTH 119. R: MATH 222, MATH 243
MATH 270	Mathematical Modelling and Computation 2	15	S2	P: (MATH 170 or EMTH 171 or MATH 280 or COSC 121 or Head of School approval) and (EMTH 119 or MATH 103 or MATH 199) R: EMTH 271, MATH 271
MATH 280	Introduction to Scientific Computation	15	NO	P: MATH 103, MATH 199 or EMTH 119 R: MATH 281, MATH 282
MATH 302	Partial Differential Equations	15	S1	P: (MATH 201 and MATH 202) or EMTH 210 R: MATH 361, EMTH 391, EMTH 413
MATH 303	Applied Matrix Algebra	15	S2	P: MATH 203 or EMTH 211. R: MATH 352, EMTH 412
MATH 320	Discrete Mathematics	15	S1	P: 30 points from MATH 201, MATH 202, MATH 203, MATH 220, MATH 240, EMTH 210, EMTH 211. R: MATH 333, MATH 334
MATH 321	Rings and Fields	15	S1	P: MATH 220, MATH 240 or (MATH 203, or EMTH 211 with Head of School permission) and a further 15 points from MATH 201-294. R: MATH 439, MATH 311
MATH 324	Cryptography and Coding Theory	15	S2	P: One of MATH 203, MATH 220 or MATH 240, and a further 15 points from MATH 201-294. R: MATH 391
MATH 335	Computability Theory	15	NO	P: 1) MATH 230 and (COSC 222 or COSC 261); or 2) 30 points in MATH or EMTH at 200 level, as approved by the Head of School; or 3) MATH 230 and, with the approval of the Head of School, an appropriate Philosophy course.
MATH 336	Foundations of Mathematics	15	NO	P: 30 points in MATH or EMTH at 200 level, as approved by the Head of School. R: MATH 208, MATH 308

MATH 343	Metric, Normed and Hilbert Spaces	15	S1	P: 30 points from MATH 201, MATH 202, MATH 203, MATH 240, MATH 270, EMTH 210, EMTH 211 or EMTH 271.
MATH 353	Computational Mathematics and Applications	15	S1	P: 1) Either MATH 201 or EMTH 210; AND 2) One of MATH 202, MATH 203, MATH 240, MATH 270, EMTH 211 or EMTH 271. With the permission of the Head of School a high grade in either MATH 201 or EMTH 210 will suffice. R: EMTH 414
MATH 363	Dynamical Systems	15	S2	P: MATH 201 or EMTH 210 and a further 15 points from (EMTH 211, EMTH 271, MATH 202, MATH 203, MATH 240, MATH 270). R: EMTH 415
MATH 365	Applications of Complex Variables	15	S2	P: MATH 201 or MATH 240; or, a high level of achievement in EMTH 210 with Head of School approval R: MATH 342
MATH 380	Mathematics in Perspective	15	S1	P: 30 points in Mathematics or Statistics or Engineering Mathematics at 100 level. 45 points from the BA or BSc Schedule at 200 level in Mathematics, Statistics, Engineering Mathematics, related subjects, or other subjects with good grades, as approved by the Head of School. R: MATH 301, MATH 433, HAPS 405
MATH 391	Special Topic	15	S1	P: Subject to the approval of the Head of School.
MATH 392	Special Topic	15	S2	P: Subject to the approval of the Head of School.
MATH 393	Independent Course of Study	15	S1	P: Subject to approval of the Head of School.
MATH 394	Independent Course of Study	15	S2	P: Subject to the approval of the Head of School.
MATH 395	Mathematics Project	15	SU2 A	P: Subject to approval of the Head of School R: MATH 305

Philosophy

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
PHIL 110	Science: Good, Bad, and Bogus	15	S1	R: HAPS 110 EQ: HAPS 110
PHIL 111	Philosophy, Sex, and Thinking	15	NO	
PHIL 132	God, Mind, and Freedom	15	S2	R: PHIL 101
PHIL 133	Philosophy and Human Nature	15	S2	
PHIL 137	Computers, Artificial Intelligence, and the Information Society	15	S1	R: DIGI 102 EQ: DIGI 102
PHIL 138	Logic and Critical Thinking	15	NO	R: PHIL 132 (prior to 2006), MATH 130, PHIL 134/MATH 134
PHIL 139	Ethics, Politics and Justice	15	S1	
PHIL 203	Dinosaurs, Quarks and Quasars: The Philosophy of Science	15	S1	P: 15 points of Philosophy or 30 points of science courses R: PHIL 223, PHIL 303
PHIL 208	The Brain Gym: An Introduction to Logic	15	S1	P: Any 15 points in Philosophy or Mathematics or Computer Science or Engineering or Linguistics; or with the approval of the Head of Department 15 points in any subject. R: PHIL 225, PHIL 246, PHIL 346, PHIL 308, MATH 208, MATH 308

PHIL 209	Logic B	15	NO	P: Any 15 points in Philosophy or Mathematics or Computer Science or Linguistics R: PHIL 225, PHIL 247, PHIL 347, PHIL 309, MATH 209, MATH 309 EQ: MATH 209
PHIL 210	Logic, Automata, and Computability	15	NO	P: PHIL 134 or PHIL 138 or PHIL 208 or 30 points from MATH 102-199 with MATH 130 highly recommended. R: MATH 230
PHIL 220	Darwin's Dangerous Idea	15	NO	P: 15 points in PHIL or 30 points in any schedule.
PHIL 224	Greek Philosophy	15	NO	P: 15 points in PHIL, or B average in 60 points of appropriate courses with approval of the Programme Coordinator. R: CLAS 224, CLAS 324, PHIL 314 EQ: CLAS 224
PHIL 229	Philosophy of Religion: Rationality, Science, and the God Hypothesis	15	S1	P: At least 15 points in Philosophy. Students without this prerequisite but with at least 60 points in appropriate subjects may be admitted with the approval of the Head of Department. R: RELS 210, PHIL 318
PHIL 233	Epistemology and Metaphysics	15	S2	P: 15 points in PHIL; or B average in 60 points of appropriate courses with approval of the Head of Department
PHIL 235	Cyberspace, Cyborgs, and the Meaning of Life	15	S1	P: Any 15 points in Philosophy or Mathematics or Computer Science; or a B average in 60 points of appropriate courses with approval of the Head of Department. R: PHIL 335, DIGI 202, DIGI 302 EQ: DIGI 202
PHIL 236	Ethics	15	S1	P: 15 points in PHIL or B average in 60 points of appropriate courses with approval of the Head of Department R: PHIL 321
PHIL 240	Bioethics: Life, Death, and Medicine	15	S2	P: 15 points in PHIL or HLTH 101 or HSRV 101 or a B average in 60 points in relevant subjects, (eg BIOL, POLS, ECON, LAWS, CMDS) as approved by the Head of Department. R: PHIL 324, POLS 225
PHIL 243	The Open Society and Its Enemies	15	NO	P: 15 points of PHIL or HAPS, or 30 points in any subject/s. RP: 15 points of 100-level Philosophy, or 30 points or more of humanities, social science, science, engineering, or commerce studies and an interest in reflective critical debate.
PHIL 249	Environmental Ethics	15	SU2	P: 15 points in PHIL or 30 points in any subject/s. RP: 15 points of 100 level Philosophy, or 30 points or more of humanities, social science, science, engineering, economics, or commerce studies and an interest in reflective critical debate.
PHIL 250	Turing: From the Computer Revolution to the Philosophy of AI	15	S2	P: 15 points in Philosophy, Computer Science, Mathematics, Linguistics, or Psychology; or 30 points in appropriate subjects with approval from the Head of Philosophy.
PHIL 251	The Expression of Meaning in Language	15	NO	R: LING 202, LING 218 EQ: LING 218

PHIL 303	Quarks, Quasars and Dinosaurs: The Philosophy of Science	15	S1	P: 15 points at 200 level in Philosophy R: PHIL 203
PHIL 305	Paradoxes	30	S2	P: Any 15 points at 200 level in Philosophy or Mathematics or Computer Science courses as approved by the Head of Department. R: PHIL 315, PHIL 444
PHIL 308	The Brain Gym: An Introduction to Logic	15	S1	P: 15 points at 200 level in Philosophy or Mathematics or Computer Science or Engineering or Linguistics; or with the approval of the Head of Department 15 points in any subject. R: PHIL 225, PHIL 246, PHIL 346, PHIL 208, MATH 208, MATH 308
PHIL 309	Logic B	15	NO	P: PHIL 208 R: PHIL 225, PHIL 247, PHIL 347, PHIL 209, MATH 209, MATH 309 EQ: MATH 309
PHIL 310	History of Philosophy	30	S2	P: 45 points in PHIL, at least 30 at 200 level.
PHIL 311	Meaning, Mind, and the Nature of Philosophy	30	S1	P: 45 points in PHIL, at least 30 at 200 level. R: PHIL 464, PHIL 497
PHIL 314	Greek Philosophy	30	NO	P: 45 points in PHIL, at least 30 at 200 level including PHIL 233 (INCO 219 may be substituted for any course except PHIL 233), and permission of the Head of Department R: PHIL 224, CLAS 224, CLAS 324 EQ: CLAS 324
PHIL 317	Contemporary Political Philosophy	30	NO	P: PHIL 236 or POLS 201 or PHIL 239 or B average in 45 points above 100 level in relevant subjects (e.g. PHIL, POLS, ECON, MSCI, LAWS, or SOCI) with approval of the Department Coordinator. R: POLS 301, POLS 351
PHIL 318	Philosophy of Religion: Rationality, Science, and the God Hypothesis	30	S1	P: 45 points in PHIL, at least 30 at 200 level. R: RELS 210 and PHIL 229
PHIL 320	Special Topic	15	NO	P: 45 points in Philosophy, at least 30 at 200 level, with approval of the Head of Department R: HLTH 407
PHIL 321	Ethics	15	S1	P: 45 points in Philosophy, at least 30 at 200 level, with approval of the Head of Department. R: PHIL 236
PHIL 324	Bioethics: Life, Death, and Medicine	15	S2	P: 45 points in Philosophy, at least 30 at 200 level, with approval of the Head of Department. R: PHIL 240, POLS 225 RP: PHIL 139 or PHIL 236
PHIL 335	Cyberspace, Cyborgs and the Meaning of Life	15	S1	P: 15 Points at 200 level in Philosophy. R: PHIL 235, DIGI 202, DIGI 302 EQ: DIGI 302
PHIL 343	Landmarks of Analytic Philosophy	15	NO	P: 45 Points in Philosophy, at least 30 points at 200 level in Philosophy R: PHIL 493

Physics

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
CHEM 251	Foundations of Materials Science and Nanotechnology	15	S2	P: CHEM 211 or CHEM 111 and PHYS 102

PHYS 101	Engineering Physics A: Mechanics, Waves, Electromagnetism and Thermal Physics	15	S1 S2	P: 1) a) PHYS 111 or NCEA 14 credits (18 credits strongly recommended) at level 3 Physics, and b) MATH 101 or 14 Credits (18 credits strongly recommended) at level 3 Mathematics (including the standards 'Apply differentiation methods in solving problems (91578)' and 'Apply integration methods in solving problems(91579)), or 2) Cambridge: D at A level or an A at AS level in both Physics and Mathematics, or 3) IB: 4 at HL or 6 at SL in both Physics and Mathematics, or 4) approval of the Head of Department based on alternative prior learning. R: PHYS 113, PHYS 112 EQ: PHYS 113
PHYS 102	Engineering Physics B: Electromagnetism, Modern Physics and 'How Things Work'	15	SU2 S2	P: PHYS 101. These prerequisites may be replaced by other background as approved by Head of Department R: PHYS 114, PHYS 115 EQ: PHYS 114
PHYS 109	The Cosmos: Birth and Evolution	15	NO	R: (1) ASTR 109. (2) Students who have been credited with ASTR 112 cannot subsequently be credited with PHYS 109. EQ: ASTR 109
PHYS 111	Introductory Physics for Physical Sciences and Engineering	15	S1	R: Students who have been credited with any of PHYS 101, PHYS 102, PHYS 113 or PHYS 114 cannot subsequently be credited with PHYS 111.
PHYS 203	Relativistic and Quantum Physics	15	S2	P: (1) PHYS 102 or (PHYS 101 and CHEM 211); (2) MATH 102 or EMTH 118. These prerequisites may be replaced by a high level of achievement in level 3 NCEA Physics and Mathematics with Calculus or other background approved by the Head of Department. R: PHYS 222 RP: MATH 103 or EMTH 119.
PHYS 205	Waves, Optics and Mechanics	15	S1	P: (1) PHYS 102; (2) MATH 102 or EMTH 118. These prerequisites may be replaced by a high level of achievement in level 3 NCEA Physics and Mathematics with Calculus or other background approved by the Head of Department. R: PHYS 201, PHYS 202 RP: (1) MATH 103 or EMTH 119; (2) EMTH 171 or COSC 121.
PHYS 206	Electromagnetism and Materials	15	S2	P: (1) PHYS 102 or (PHYS 101 + CHEM 211); (2) MATH 102. These prerequisites may be replaced by a high level of achievement in level 3 NCEA Physics and Mathematics with Calculus or other background approved by the Head of Department. R: PHYS 202, PHYS 314 RP: MATH 103 or EMTH 119.
PHYS 208	Special Topic	15	S1	P: Admission only by permission of the Head of Department
PHYS 209	Special Topic	15	S2	P: Admission only by permission of the Head of Department
PHYS 285	Technical and Professional Skills for Physicists	15	S1	P: (1) PHYS 102; (2) MATH 102 or EMTH 118 (3) MATH 170 or EMTH 171 or COSC 121 or MATH 280 or MATH 282 or another approved course involving programming. These prerequisites may be replaced by a high level of achievement in level 3 NCEA Physics and Mathematics with Calculus or other background approved by the Head of Department. R: PHYS 281, PHYS 282 RP: MATH 103 or EMTH 119.

PHYS 310	Thermal, Statistical and Particle Physics	15	S1	P: (1) PHYS 203; (2) MATH 103 or EMTH 119. R: PHYS 204, PHYS 440 RP: MATH 201
PHYS 311	Quantum Mechanics	15	S1	P: (1) PHYS 203 or (PHYS 206 and CHEM 251); (2) MATH 103 or EMTH 119. RP: MATH 201 and MATH 203
PHYS 313	Advanced Electromagnetism and Materials	15	S2	P: (1) PHYS 206; (2) PHYS 203 or CHEM 211; (3) MATH 103 or EMTH 119. R: PHYS 312, PHYS 314, PHYS 443 RP: MATH 201
PHYS 319	Atmospheric, Oceanic and Climate Dynamics	15	NO	P: (1) PHYS 201 or PHYS 205; (2) PHYS 202 or PHYS 203 or PHYS 206 (3) MATH 103 or EMTH 119 or MATH 201. R: PHYS 316, PHYS 418, PHYS 419 RP: MATH 202
PHYS 323	Laser Physics and Modern Optics	15	S2	P: 1) PHYS 203; (2) PHYS 206; (3) MATH 103 or MATH 109 or EMTH 119 or MATH 201. R: PHYS 413 RP: PHYS 205, MATH 201
PHYS 326	Classical Mechanics and Symmetry Principles	15	S1	P: (1) PHYS 202 or PHYS 205; (2) PHYS 203; (3) MATH 201 RP: MATH 202 and MATH 203
PHYS 327	Special Topic	15	S1	P: (1) Subject to approval of the Head of Department; (2) MATH 103 or MATH 109 or equivalent.
PHYS 329	Special Topic	15	S1	P: (1) Subject to approval of the Head of Department; (2) MATH 103 or MATH 109 or equivalent.
PHYS 381	Advanced Experimental Physics and Astronomy	15	S2	P: (1) PHYS 285; (2) 30 points from PHYS 201-206 including either PHYS 202 or PHYS 205); (3) MATH 103 or EMTH 119. R: ASTR 381 RP: MATH 201 EQ: ASTR 381
PHYS 391	Introductory Physics Research	15	SU2 S1 S2	P: (1) MATH 103 or MATH 109 or equivalent (2) 44 points from PHYS 200 (3) Entry subject to a supervisor approved by the Head of Department, being available

Psychology

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
PSYC 105	Introductory Psychology - Brain, Behaviour and Cognition	15	S1	R: PSYC 103, PSYC 104
PSYC 106	Introductory Psychology - Social, Personality and Developmental	15	S2	R: PSYC 103, PSYC 104
PSYC 206	Research Design and Statistics	15	S1	P: At least 15 points in 100-level Psychology and at least 45 points overall
PSYC 207	Developmental Psychology	15	S2	P: PSYC 104, or PSYC 105 and PSYC 106
PSYC 208	Cognition	15	S2	P: PSYC 104, or PSYC 105 and PSYC 106, or with the approval of the Head of Department, a pass in a professional year of Engineering, or in approved courses in Computer Science, Linguistics, or Philosophy
PSYC 209	Sensation and Perception	15	S1	P: PSYC 104, or PSYC 105 and PSYC 106, or with the approval of the Head of Department, a pass in a professional year of Engineering, or in approved courses in Art, Art History, or Computer Science
PSYC 211	Personality	15	S2	P: PSYC 104, or PSYC 105 and PSYC 106
PSYC 212	Foundations of Behavioural Neuroscience	15	NO	P: PSYC 105 and PSYC 106 RP: BIOL 111, and/or BIOL 113, and/or BIOL 116

PSYC 213	Introduction to Social Psychology	15	S1	P: PSYC 105 and PSYC 106 R: PSYC 332
PSYC 333	Biological Psychology	30	S1	P: PSYC 206. RP: 15 further points from PSYC 200/300.
PSYC 334	Learning and Behaviour Analysis	30	W	P: PSYC 206
PSYC 335	Abnormal Psychology	30	W	P: PSYC 206. RP: PSYC 207, PSYC 211
PSYC 336	Industrial and Organisational Psychology	15	S1	P: PSYC 206. RP: PSYC 211, 15 further points from PSYC 200
PSYC 339	Health Psychology and Behaviour Change	30	S1	P: PSYC 206
PSYC 340	Cognitive Psychology	15	S2	P: PSYC 208
PSYC 341	Environmental Psychology	15	S2	P: PSYC 206, OR 30 points of 100-level Psychology PLUS 15 points of relevant advanced courses approved by the Head of Department. RP: Any of BIOL 112, GEOG 106, GEOG 107, GEOG 108
PSYC 342	Special Topic	30	W	P: PSYC 206
PSYC 343	Psychology of Adult Development	30	NO	P: EITHER one course from PSYC 206 - PSYC 211: OR PSYC 105 and PSYC 106 PLUS 15 points from a course approved by the Head of Department of Psychology.
PSYC 344	Research Methods	30	S2	P: PSYC 206
PSYC 346	Judgement and Decision Making	15	S1	P: PSYC 206, or equivalent preparation
PSYC 348	Special Topic: Contemporary Issues in Family Psychology	15	S2	P: EITHER PSYC 206 or PSYC 207; or PSYC 105 and PSYC 106 plus at least 15 points at 200-level or above in a course approved by the Head of Department of Psychology.
ARTS 395	Internship	30	SU2	P: Special application and interview, with permission of the Internship Director. RP: Students should attend UC Careers CV writing and interview skills workshops prior to submitting internship application.

Science and Entrepreneurship

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
SCIE 303	Internship	15	SU2 S1 S2	P: 105 points, including 45 points at 200-level. Special application and interview, with permission of Internship Manager. RP: Students should attend UC careers CV writing and interview skills workshop prior to submitting internship application

Science, Māori and Indigenous Knowledge

Note: This is an integrated multidisciplinary course between the School of Māori and Indigenous Studies and the College of Science

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
SCIM 101	Science, Māori and Indigenous Knowledge	15	S2	R: MAOR 172 EQ: MAOR 172

Soil Science

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
SOIL 203	Soil Fertility	15	S2	P: 30 points from CHEM, GEOL, BIOL, or by approval Chair Forestry Board of Studies R: SOIL 201

Statistics

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
STAT 101	Statistics 1	15	SU2 S1 S2	R: STAT 111, STAT 112 EQ: STAT 111, STAT 112
STAT 201	Applied Statistics	15	S1	P: STAT 101 R: FORE 210, STAT 220, FORE 222, STAT 222
STAT 202	Regression Modelling	15	S2	P: STAT 101 R: FORE 210, STAT 220, FORE 224, STAT 224
STAT 211	Random Processes	15	S1	P: STAT 101 and (MATH 102 or EMTH 118); or any one of MATH 103, MATH 199, EMTH 119. R: STAT 216
STAT 213	Statistical Inference	15	S2	P: STAT 101 and (MATH 102 or EMTH 118); or any one of MATH 103, MATH 199, EMTH 119. R: STAT 214
STAT 221	Introduction to Statistical Computing Using R	15	S1	P: STAT 101 and (MATH 102 or EMTH 118); or any one of MATH 103, MATH 199, EMTH 119. R: STAT 218
STAT 312	Data Collection and Sampling Methods	15	S1	P: 15 points from STAT 201, STAT 202, STAT 213, and, a further 15 points from STAT 200 to STAT 299.
STAT 313	Computational Statistics	15	NO	P: STAT 211, STAT 213, STAT 221, EMTH 210, EMTH 271 or at least B+ in (MATH 103 or EMTH 119).
STAT 314	Bayesian Inference	15	S2	P: One of the following: 1) (MATH 103 or MATH 199 or EMTH 119) and (15 points at 200-level MATH or STAT (or other quantitative 200 level courses by approval of the Head of School)); 2) STAT 211 or STAT 213 or STAT 221.
STAT 315	Multivariate Statistical Methods	15	S1	P: 15 points from (STAT 202 or STAT 213) and a further 15 points from STAT 200-299, or, subject to Head of School approval.
STAT 316	Applied Stochastic Modelling	15	NO	P: 15 points from STAT 211, STAT 212, STAT 221 or MATH 201. R: MATH 376
STAT 317	Time Series Methods	15	S2	P: 15 points from STAT 201, STAT 202, STAT 213 and a further 15 points from STAT 200-299, ECON 213, MATH 103, MATH 199 or EMTH 119. R: ECON 323, FINC 323
STAT 318	Data Mining	15	S2	P: i) 15 points from STAT 200 to STAT 299 and ii) a further 15 points from STAT 200 to STAT 299 or COSC 200-299 or any other relevant subject with Head of School approval.
STAT 319	Generalised Linear Models	15	S1	P: 30 points from STAT 200-299 or Head of School approval
STAT 391	Special Topic	15	S1	P: Subject to the approval of the Head of School.
STAT 392	Special Topic	15	S2	P: Subject to approval of the Head of School.
STAT 393	Independent Course of Study	15	S1	P: Subject to approval of the Head of School.
STAT 394	Independent Course of Study	15	S2	P: Subject to approval of the Head of School.
STAT 395	Statistics Project	15	SU2 A	P: Subject to approval of the Head of School

Water Resource Management*

** Subject to Universities New Zealand CUAP approval, due December 2016.*

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
WATR 201	Freshwater Resources	15	S2	P: Any 75 points at 100 level

WATR 203	Freshwater Science Field Skills	15	SU1	P: A freshwater-related course of study or appropriate freshwater-related work experience as determined by the Head of Programme.
WATR 301	Water Resource Management	15	S1	P: 45 points at 200 level in any subject area.

Schedule of Endorsements for the Degree of Bachelor of Science

For full course information, go to www.canterbury.ac.nz/courses

Biosecurity

To qualify for an endorsement in Biosecurity a student must be enrolled for a Bachelor of Science in Biological Sciences and must complete the 360 point requirement for the BSc.

Required courses

The following courses are required for the endorsement:

100-level

BIOL 111 Cellular Biology and Biochemistry (15 points)
BIOL 112 Ecology, Evolution and Conservation (15 points)
BIOL 113 Diversity of Life (15 points) **and**
CHEM 114 Foundations of Chemistry (15 points) **or**
BCHM 112 Structure and Reactivity in Chemistry and Biochemistry (15 points)
STAT 101 Statistics 1
Total 100-level points required: 75 points

200-level

BIOL 209 Introduction to Biological Data Analysis (15 points) **or**
STAT 201 Applied Statistics (15 points) **or**
STAT 202 Regression Modelling (15 points) **and**
BIOL 231 Foundations in Molecular Biology (15 points)
BIOL 270 Ecology (30 points)
BIOL 271 Evolution (15 points)
BIOL 273 New Zealand Biodiversity and Biosecurity (15 points)
BIOS 201 Issues in New Zealand Biosecurity (15 points)
Total 200-level points required: 105 points

300-level

BIOL 332 Genetics and Evolution of Invasive Species (15 points)
BIOL 377 Global Change and Biosecurity (15 points) **and**
BIOL 352 Plant Development and Biotechnology (15 points)
Total 300-level points required: 45 points

Recommended courses

Students will normally follow one of two pathways: a molecular/genetics pathway or an ecological/applied pathway. Recommended courses should be selected from:

Molecular/genetics pathway

100-level

LAWS 101 The Legal System: Legal Method and Institutions

200-level

BIOL 203 Introduction to Forensic Biology
BIOL 213 Microbiology and Genetics
BIOL 254 Principles of Plant Physiology
CHEM 224 Analytical and Environmental Chemistry
ANTA 201 Antarctica and Global Change
POLS 206 Public Policy: An Introduction

300-level

BIOL 309 Experimental Design and Data Analysis for Biologists
BIOL 313 Advanced Molecular and Industrial Microbiology
BIOL 330 Advanced Concepts in Genetics
BIOL 333 Molecular Genetics
BIOL 335 Bioinformatics and Genomics

Ecological/applied pathway

100-level

LAWS 101 The Legal System
SCIM 101 Science, Māori and Indigenous Knowledge

200-level

BIOL 211 Insect Biology
BIOL 212 Marine Biology

BIOL 215 Plant Diversity and Systematics
FORE 218 Forest Biology
ANTA 201 Antarctica and Global Change
POLS 206 Public Policy: An Introduction

300-level
BIOL 305 Practical Field Botany
BIOL 309 Experimental Design and Data Analysis for Biologists
BIOL 371 Evolutionary Ecology
BIOL 384 Marine Ecosystems
BIOL 375 Freshwater Ecosystems
BIOL 378 Population Ecology and Conservation
FORE 443 Biosecurity Risk Management
FORE 444 Sustaining Native Biodiversity on Private Land

Biotechnology

To qualify for an endorsement in Biotechnology a student must be enrolled for a Bachelor of Science in Biological Sciences and must complete the 360 point requirement for the BSc.

Required courses

The following courses are required for the endorsement:

100-level (all 15 points)
BIOL 111 Cellular Biology and Biochemistry
BIOL 112 Ecology, Evolution and Conservation
BIOL 113 Diversity of Life
BCHM 112 Structure and Reactivity in Chemistry and Biochemistry
STAT 101 Statistics 1
Total 100-level required points: 75 points

200-level (all 15 points)
BIOL 209 Introduction to Biological Data Analysis
BIOL 213 Microbiology and Genetics
BIOL 231 Foundations in Molecular Biology **or**
BCHM 202 Molecular Genetics
BIOL 271 Evolution
BIOL 253 Cell Biology 1 **or**
BIOL 254 Principles of Plant Physiology
Total 200-level required points: 75 points

300-level
BIOL 352 Plant Development and Biotechnology **and**
BIOL 313 Advanced Molecular and Industrial Microbiology
BIOL 333 Molecular Genetics
and a minimum of 30 points from the following:
BIOL 330 Advanced Concepts in Genetics
BIOL 332 Genetics and Evolution of Invasive Species
BIOL 335 Bioinformatics and Genomics
BIOL 351 Cell Biology
BIOL 371 Evolutionary Ecology
Total 300-level required points: 75 points

Recommended courses

100-level
MATH 101 Introductory Mathematics with Applications or
MATH 102 Mathematics
LAWS 101 The Legal System
SCIM 101 Science, Māori and Indigenous Knowledge
ENGR 101 Foundations of Engineering

200-level
BIOS 201 Issues in New Zealand Biosecurity
BIOL 215 Plant Diversity and Systematics
BIOL 250 Principles of Animal Physiology
BIOL 273 New Zealand Biodiversity and Biosecurity
POLS 206 Public Policy: An Introduction
BCHM 222 Biochemistry B
BCHM 281 Practical Biochemistry
PHIL 249 Environmental Ethics

300-level
BCHM 303 Special Topic: Toxicology
BIOL 331/BCHM301 Biochemistry 3
SCIE 301/302 Science and Entrepreneurship

Suggested pathways

Students will normally follow one of two pathways: an environmental pathway or a plant pathway. Recommended combinations of courses are:

Environmental Biotechnology

100-level
BIOL 111 Cellular Biology and Biochemistry
BIOL 112 Ecology, Evolution and Conservation
BIOL 113 Diversity of Life
BCHM 112 Structure and Reactivity in Chemistry and Biochemistry
STAT 101 Statistics 1s
Plus recommended courses from list above

200-level

BIOL 209 Introduction to Biological Data Analysis
BIOL 253 Cell Biology 1 **or**
BIOL 254 Plant Developmental Biology
BIOL 213 Microbiology and Genetics
BIOL 231 Foundations in Molecular Biology
BIOL 271 Evolution
BIOL 215 Plant Diversity and Systematics **or**
BIOL 273 NZ Biodiversity and Biosecurity
BCHM 281 Practical Biochemistry
Plus recommended courses from lists above

300-level

BIOL 313 Advanced Molecular and Industrial Microbiology
BIOL 330 Advanced Concepts in Genetics
BIOL 333 Molecular Genetics (15 points)
BIOL 334 Evolutionary Genetics (15 points)
BIOL 332 Genetics and Evolution of Invasive Species
BIOL 371 Evolutionary Ecology
Plus recommended courses from lists above

Plant Biotechnology

100-level

BIOL 111 Cellular Biology and Biochemistry
BIOL 112 Ecology, Evolution and Conservation
BIOL 113 Diversity of Life
BCHM 112 Structure and Reactivity in Chemistry and Biochemistry
STAT 101 Statistics 1
Plus recommended courses from list above

200-level

BIOL 209 Introduction to Biological Data Analysis
BIOL 254 Principles of Plant Physiology
BIOL 213 Microbiology and Genetics
BIOL 231 Foundations in Molecular Biology
BIOL 271 Evolution
BIOL 253 Cell Biology 1
BCHM 281 Practical Biochemistry
Plus recommended courses from lists above

300-level

BIOL 333 Molecular Genetics (15 points)
BIOL 334 Evolutionary Genetics (15 points)
BIOL 335 Bioinformatics and Genomics
BIOL 352 Plant Development and Biotechnology
BIOL 330 Advanced Concepts in Genetics
BIOL 351 Cell Biology
Plus recommended courses from lists above

Ecology

To qualify for an endorsement in Ecology a student must be enrolled for a Bachelor of Science in Biological Sciences and must complete the 360 point requirement for the BSc.

Required courses

The following courses are required for the endorsement:

100-level

BIOL 111 Cellular Biology and Biochemistry
BIOL 112 Ecology, Evolution and Conservation
BIOL 113 Diversity of Life
STAT 101 Statistics 1

200-level

BIOL 209 Introduction to Biological Data Analysis, or
STAT 201 Applied Statistics, or
STAT 202 Regression Modelling
BIOL 270 Ecology
BIOL 271 Evolution

300-level

BIOL 309 Experimental Design and Data Analysis for Biologists
And at least 60 points from:
BIOL 354 Animal Ecophysiology
BIOL 371 Evolutionary Ecology
BIOL 383 Behaviour
BIOL 384 Marine Ecosystems
BIOL 375 Freshwater Ecosystems
BIOL 377 Global Change and Biosecurity
BIOL 378 Population Ecology and Conservation
BIOL 379 Sustaining Native Biodiversity in Primary Production Systems

Recommended courses

100-level

CHEM 114 Foundations of Chemistry
GEOG 106 Global Environmental Change
GEOG 109 Forces in Nature
GEOL 111 Planet Earth: An Introduction to Geology
GEOL 112 Understanding Earth History

200-level

BIOL 210 Vertebrate Biology

BIOL 211 Insect Biology
BIOL 212 Marine Biology
BIOL 214 Diversity of Algae (up to 2009)
BIOL 215 Plant Diversity
BIOL 272 Principles of Animal Behaviour
BIOL 273 New Zealand Biodiversity and Biosecurity
GEOG 205 Introduction to Geographic Information Systems

300-level

FORE 444 Sustaining Native Biodiversity on Private Land

GEOG 323 Geospatial Analysis in the Social and Environmental Sciences

Environmental Science*

** Not open to new enrolments in 2017.*

To qualify for an endorsement in Environmental Science, a student must be a Biology or Chemistry or Geography or Geology major and complete the 360 points requirements for the Bachelor of Science. Of those 360 points, students must complete successfully the required courses listed under Sections A and B below.

A: Core knowledge and skills for all BSc students endorsed in Environmental Science

Required courses (60 points):

Knowledge of ecosystem processes: BIOL 112 Ecology, Evolution and Conservation
Knowledge of human-environment interaction: either GEOG 106 Global Environmental Change or GEOL 113 Environmental Geohazards
Skills in GIS: GEOG 205 Introduction to GIS
Skills in basic maths and/or stats: one 100 level course in either STAT or MATH or BIOL 209 Introduction to Biological Data Analysis

Recommended courses (15 points):

Knowledge of science in the Māori world view: SCIM 101 Science, Māori and Indigenous Knowledge

B: Core knowledge and skills for BSc students endorsed in Environmental Science to the following majors

Biological Sciences

Required courses (45 points):

Knowledge of basic chemistry: at least one Chemistry course at 100-level
Skills in environmental fieldwork: BIOL270 Ecology

Chemistry

Required courses (45 points):

Relevant lab skills: CHEM 281 Practical Chemistry
Relevant instrumental skills: CHEM 382 Instrumental Methods
Environmental chemistry: CHEM 324 Analytical and Environmental Chemistry

Geography

Required (15 points):

Skills in environmental fieldwork: GEOG 211 Environmental Processes: Research Practice

Recommended (15 points):

Knowledge of basic chemistry: at least one Chemistry course at 100 level

Geology

Required (30 points):

Skills in environmental fieldwork: either GEOL 240 Field Studies A or GEOL 241 Field Studies B
Knowledge of basic chemistry: at least one Chemistry course at 100 level

The Degree of Bachelor of Speech and Language Pathology with Honours (BSLP(Hons))

See also General Course and Examination Regulations

The overarching goal of the Bachelor of Speech and Language Pathology with Honours is to produce graduates ready for entry-level clinical practice as a speech-language therapist/pathologist. The programme will meet both national and internationally recognised standards regarding the development of academic knowledge and clinical skills.

1. Approval of Candidacy

Every candidate for the Degree of Bachelor of Speech and Language Pathology with Honours shall have been approved as a candidate by the Dean of Science.

2. Structure of the Degree

To qualify for the Degree, a candidate must follow a course of study as laid down in the Schedule to these Regulations consisting of not fewer than 4 EFTS (four years of full-time study) and be credited with:

(a) successful completion of courses in the Intermediate Examination;
(b) passes in the Examinations prescribed for the First, Second and Third Professional Years, and
(c) satisfactory performance in such other practical work as may be prescribed in order to complete a minimum of 300 hours of supervised clinical practice.

Note: Entry into the First Professional Examination is limited. Candidates must submit an enrolment application and a separate application form to the Head of the Department of Communication Disorders.

3. Admission to the Degree

(a) All students planning to complete a Bachelor of Speech and Language Pathology with Honours must apply for admission to the degree programme prior to their First Professional Year. Applications for admission to the first professional year must be received at the Department of Communication Disorders on the prescribed form no later than 1st October in the year preceding desired entry. Late applications will be considered subject to availability of places in the programme. Students must also Apply to Enrol.
(b) To be eligible for admission students must have completed the seven compulsory courses, and one selected approved course of the Intermediate Year (or equivalent) totalling 120 points. Selection is based on academic merit, a statement of interest and an interview with Departmental Representatives.
(c) Prospective students who are seeking entry but have not completed the compulsory courses are encouraged to discuss their circumstances with the Head of Department.
(d) Admission to the degree is normally limited to 40 candidates. *Note: See Limitation of Entry Regulations.*
(e) Admission to CMDS 281 and CMDS 282, the practicum courses in the First Professional Year, will be granted only to students who have been formally admitted to the degree programme. Admission to other professional courses may be approved for students enrolled in other degrees at the discretion of the Head of Department.
(f) The selection into the degree programme is by the Admissions Committee of the Department of Communication Disorders who have been delegated authority by the Academic Board. The Admissions Committee normally meets during the second week of December following the publication of grades.
(g) Exemption from the Intermediate Year may be granted to individuals with qualifications and, where appropriate, relevant work experience, approved by the Head of Department. Students admitted under this clause may be required to take additional qualifying courses.
(h) Candidates for admission to the First Professional Year for whom English is a second language must provide evidence of IELTS (Academic) 7.0 with no score lower than 6.5.

4. Maintaining a Place in the Programme

Students admitted to the degree must pre-register for the practicum courses CMDS 381, CMDS 382, CMDS 482 and CMDS 484 by 15 October of the year preceding the course. Students pre-register by completing the application form available through the Department of Communication Disorders. Students who do not pre-register may not be admitted except under exceptional circumstances and by the approval of the Dean of Science.

5. Each Professional Examination to be Passed as a Whole

A candidate shall be required to pass each Examination for the First, Second and Third Professional Years as a whole. In recommending a candidate for a pass in any of these Examinations, the Dean of Science shall take into consideration the candidate's performance in all of the subjects of the Examination.

In exceptional circumstances, a candidate who has failed to pass an Examination as a whole may be credited with some of the subjects of the Examination. The candidate may then present, in a subsequent year, the remaining subjects of that Examination together with such subjects of the succeeding Professional Year as the Academic Board may permit.

6. Approval of Course of Study

The personal course of study of every candidate shall be as approved by the Dean of Science. In special cases the Academic Board may approve a course of study which does not conform to these or other relevant Regulations. Any application under this Regulation must be submitted in writing to the Head of the Department of Communication

Disorders.

7. BSLP(Hons) with Honours

The Degree of Bachelor of Speech and Language Pathology with Honours may be awarded with or without Honours. A candidate who has fulfilled the requirements herein prescribed for the degree and whose work has been of a sufficiently high standard may be recommended by the Dean of Science for admission to the degree with First or Second Class Honours. The candidates obtaining Second Class Honours shall be listed in two divisions (Division 1 and Division 2).

8. Full-time and Part-time Enrolment

(a) A candidate shall normally enrol for full-time study across four years (this includes the Intermediate Year). There is no provision for accelerated learning.

(b) A candidate may enrol for part-time study, at the discretion of the Dean of Science, for health, family, employment or other circumstances, in which case the candidate must complete the degree in no longer than twice the length of the full-time equivalent Programme.

Schedule to the Regulations for the Degree of Bachelor of Speech and Language Pathology with Honours

For full course information, go to www.canterbury.ac.nz/courses

Intermediate Year

A candidate's course of study for the Intermediate Year will consist of a total of 120 points made up of seven compulsory 15-point courses (or equivalent).

All of these courses:

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
CMDS 113	Introduction to Communication Disorders	15	S1	R: CMDS 111 and CMDS 112
CMDS 161	Anatomy and Physiology of the Speech and Hearing Mechanism	15	SU2	
CMDS 162	Neuroscience of Swallowing and Communication	15	S2	R: CMDS 667
LING 101	The English Language	15	SU2 S1	R: ENGL 123, ENLA 101
PSYC 105	Introductory Psychology - Brain, Behaviour and Cognition	15	S1	R: PSYC 103, PSYC 104
PSYC 106	Introductory Psychology - Social, Personality and Developmental	15	S2	R: PSYC 103, PSYC 104
STAT 101	Statistics 1	15	SU2 S1 S2	R: STAT 111, STAT 112 EQ: STAT 111, STAT 112

Plus one of the following courses:

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
HLTH 106	Nga Take, Te Wero - Māori Health Issues and Opportunities	15	S1	
MAOR 165	He Timatanga: Engaging with Māori	15	SU1 S1	
MAOR 172	Science, Māori and Indigenous Knowledge	15	S2	R: SCIM 101 EQ: SCIM 101
TREO 110	Conversational Māori for Absolute Beginners	15	SU1 S1 S2	R: MAOR 105, MAOR 110, MAOR 111, MAOR 112, MAOR 115, MAOR 124, MAOR 125, TREO 111, TREO 112

TREO 111	Te Reo: Te Kakano - Introductory Language 1	15	S1	P: Students wishing to enter TREO 111 must have a basic knowledge of te reo Māori including an understanding of correct pronunciation, basic greetings, days of the week, parts of the body etc (i.e. knowledge that can be gained through successfully completing TREO 110). Students that are more competent in te reo Māori may be asked to complete an oral test to assess their level appropriate course for the student. In some instances this may mean that a student enters the TREO Programme at a higher level. R: MAOR 105, MAOR 110, MAOR 111, MAOR 115, MAOR 124, MAOR 125

First Professional Year

Candidates for admission to the First Professional Year must have passed courses totalling at least 120 points at this University or the equivalent at another university.

All courses are compulsory.

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
CMDS 221	Clinical Linguistics and Language Acquisition	15	S1	R: CMDS 661
CMDS 222	Language Disorders in Children	15	S2	P: CMDS 221 R: CMDS 665
CMDS 231	Clinical Phonetics	15	S1	R: CMDS 661
CMDS 232	Speech Sound Disorders	15	S2	P: CMDS 231 R: CMDS 665
CMDS 243	Introduction to Audiologic Assessment and Management	15	S1	R: CMDS 663
CMDS 263	Evaluating Research for Clinical Practice	15	S2	P: STAT 101 R: CMDS 668
CMDS 281	Observation and Clinical Practice 1	15	S1	R: CMDS 664
CMDS 282	Clinical Practice 2	15	SU2 S2	R: CMDS 668

Second Professional Year

All courses are compulsory.

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
CMDS 363	Motor Speech Disorders	15	S2	P: CMDS 162 or CMDS 262 R: CMDS 673
CMDS 365	Dysphagia and Related Disorders - Diagnosis	15	S1	P: CMDS 161 and (CMDS 162 or CMDS 262) R: CMDS 669
CMDS 366	Dysphagia and Related Disorders - Management	15	S2	P: CMDS 161, CMDS 162, CMDS 365 R: CMDS 674
CMDS 367	Voice Science and Disorders	15	S2	P: CMDS 162 or CMDS 262 R: CMDS 666
CMDS 368	Professional Studies 1	15	NO	P: CMDS 281, CMDS 282 R: CMDS 664
CMDS 369	Aphasia and Related Disorders	15	S1	P: CMDS 162 or CMDS 262 R: CMDS 670
CMDS 381	Applied Research and Clinical Practice 3	15	SU2 S1	P: CMDS 281, CMDS 282, CMDS 263 R: CMDS 671
CMDS 382	Clinical Practice 4	15	SU2 S2	P: CMDS 281, CMDS 282, CMDS 263 R: CMDS 676

Third Professional Year

All courses are compulsory.

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
CMDS 420	Professional Studies 1	15	S1	P: CMDS 222 R: CMDS 672
CMDS 451	Fluency Disorders	15	S1	R: CMDS 662
CMDS 461	Complex Communication Disorders	15	S2	P: CMDS 320, CMDS 369, CMDS 363 R: CMDS 675
CMDS 468	Professional Studies 2	15	S2	P: CMDS 368 R: CMDS 676
CMDS 482	Clinical Practice 5	15	SU2 S1	P: CMDS 381, CMDS 382;
CMDS 484	Clinical Practice 6	30	SU2	P: CMDS 381, CMDS 382;

Plus one of the following courses:

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
CMDS 490	Research Project	30	W	P: Subject to approval of the Head of Department.
CMDS 491	Capstone Project	15	S1	P: CMDS 263 and Enrolment in the 3rd Professional Year of the BSLP(Hons).

Certificate in Science (CertSc)

See also General Course and Examination Regulations.

The Programme for this Certificate

1. The Structure of the Programme

(a) Subjects: The Certificate in Science may be awarded for courses passed in the following subjects: Astronomy, Biochemistry, Biological Sciences, Chemistry, Computer Science, Economics, Finance, Geography, Geology, Linguistics, Mathematics, Philosophy, Physics, Psychology, and Statistics.

Note: The courses for the subjects and their prerequisites are given in the Schedule of Courses for the Degree of Bachelor of Science.

(b) Structure: To qualify for the Certificate in Science a candidate must pass courses totalling at least 75 points at the 100- and/or 200-level, in courses listed in the Schedule to the Bachelor of Science.

2. Full-time and Part-time Study and the Normal Time Limits

The Certificate may be studied full-time or part-time. Other than in exceptional circumstances approved by the Dean of Science, the maximum elapsed time from first enrolment will be three years.

Admission to the Programme

The Certificate in Science is an introductory qualification in Science for candidates wishing to: test their scholastic ability at university prior to proceeding to a Bachelor's degree programme; broaden or update their knowledge for employment reasons; or engage in lifelong learning.

3. Standard of Entry and Approvals Required for Admission to the Programme

(a) Candidates must satisfy the admission requirements of the University.

(b) The programme of study must be approved by the Dean of Science.

4. Transfer of Earlier Credit

(a) With the approval of the Dean of Science, courses passed within the previous five years and listed in the Schedule to the Bachelor of Science, or courses deemed to be equivalent which have not already been credited to another qualification, may be credited to the Certificate, provided that they satisfy the other regulations of the Certificate. Up to 15 points from courses from another New Zealand university may be credited under this Regulation.

(b) A student who has abandoned a Bachelor of Science degree and has passed 75 points with a C average or better and wishes to graduate with a Certificate in Science, must have permission of the Dean of Science to do so.

Transfer to Bachelor of Science

5. With the approval of the Dean of Science:

(a) A candidate who has been awarded a Certificate within the previous five years may apply to credit Certificate courses towards an undergraduate science degree of the University, provided any such courses comply with the Regulations for the degree.

(b) A candidate who has not been awarded the Certificate may apply to transfer courses passed while enrolled for the Certificate to a Bachelor of Science degree.

Graduate Diploma in Science (GradDipSc)

See also General Course and Examination Regulations.

1. Subjects in Which the Diploma May be Awarded

The subjects for the Graduate Diploma in Science are: Astronomy, Biochemistry, Biological Sciences, Chemistry, Computer Science, Economics, Ethics, Finance, Geography, Geology, Linguistics, Mathematics, Philosophy, Physics, Psychology, and Statistics.

2. Qualifications Required to Enrol in the Diploma

(a) Every candidate for the Diploma in Science shall, before enrolling for the diploma, fulfil one of the following conditions:
   i. either qualify for a bachelor's degree;
   ii. or be admitted ad eundem statum as entitled to enrol for the Diploma in Science.

(b) Every candidate for the diploma shall have been approved as a candidate by the Dean of Science.

3. Structure of the Diploma

To qualify for the diploma a candidate shall pass prescribed courses which shall have been selected from the Schedule to the Bachelor of Science degree or from courses which the Academic Board has accepted as equivalent thereto. These courses must have a total value of not fewer than 120 points including not fewer than 90 points at 300-level.

4. Award of Diploma with Distinction

The Diploma in Science may be awarded with Distinction.

5. Exemption of Prerequisites

Normal prerequisites for any course may be exempted at the discretion of the Head of Department/School where the course is offered.

6. Part-time Enrolment

The diploma may be studied part-time.

7. Repeating of Courses

A candidate who has failed one or more courses is allowed to repeat those courses for credit.

The Degree of Bachelor of Science With Honours (BSc(Hons))

See also General Course and Examination Regulations.

1. BSc(Hons) Programme of Study

The BSc(Hons) at the University of Canterbury, if studied full-time, is an accelerated one-year (12 months) degree course for the very able. It is taken following the completion of a three-year Bachelor's degree with very good grades. Those who complete the BSc(Hons) with high grades are normally eligible to proceed directly to a PhD.

Students who have been granted direct entry to 200-level undergraduate courses on the basis of high achievement in university entrance assessments may complete a BSc(Hons) after a total of three years' study: two years undergraduate (Pre-BSc(Hons)) and the one-year (12 months) Honours. Also see Regulation 3(a) (iii) below.

2. Subjects in which the Degree may be Awarded

The degree of BSc(Hons) may be awarded in the following subjects: Astronomy, Biochemistry, Biological Sciences, Biotechnology, Cellular and Molecular Biology, Chemistry, Computational and Applied Mathematical Sciences, Computer Science, Ecology, Economics, Environmental Science, Evolutionary Biology+, Finance and Mathematics, Finance and Statistics, Financial Engineering,

+ Not open to new enrolments in 2017.

Geography, Geology, Mathematics, Mathematics and Philosophy, Mathematical Physics, Medical Physics, Microbiology, Physics, Plant Biology+, Psychology, Statistics, Zoology+. (Please refer to Regulation 9 for Combined Honours.)

3. Qualifications Required to Enrol in the Degree

Every candidate for the Degree of Bachelor of Science with Honours shall have:

(a) either
   i. qualified for the award of a Bachelor's degree; or
   ii. been admitted under the regulations for admission ad eundem statum as entitled to enrol for the Degree of Bachelor of Science with Honours; or
   iii. gained direct entry into 200-level courses and have completed a minimum of 240 points, including 90 points at 300-level;

   Note: Students who enter 200-level honours (Pre-BSc(Hons)) under this regulation transfer from an incomplete BSc and graduate BSc(Hons) only.

(b) And either
   i. satisfied the prerequisites for the subject to be undertaken in the BSc(Hons) as specified in the Schedule to these Regulations; or
   ii. completed a qualifying course prescribed by the Head of Department/School and approved by the Dean of Science of a standard equivalent to the prerequisite courses;

(c) demonstrated a high standard of achievement in previous course work, normally entailing having achieved at least a B+ average in the required courses for their undergraduate degree subject major.

(d) been approved as a candidate for the degree in that subject by the Head of Department/School and the Dean of Science.

4. Course of Study Requirements

A candidate shall be assessed on the basis of such written examination, oral examinations, research project, and other work as prescribed for the subject offered. Candidates shall not concurrently enrol in additional undergraduate courses except with the permission of the Head of Department/School and Dean of Science. The programme of study shall satisfy the following conditions.

(a) Approval of programme of study
   i. Every programme of study for the degree shall contain the 400-level requirements specified by the Department in the Schedule to the Regulations for the Bachelor of Science with Honours. The programme of study must have a minimum of 144 points (1.2 EFTS), which includes a research project of at least 30 points. With the approval of the Head of Department/School, a candidate may replace courses up to 60 points with 400-level honours courses prescribed for other subjects.
   ii. In special cases a personal programme of study may be approved which does not conform to the course of study requirements. Applications for a special course of study shall be submitted in writing to the appropriate Head of Department/School and forwarded to the Dean of Science for approval. The application will be considered on its merits and in the light of special circumstances.

(b) Courses not to be repeated or failed: All courses must normally be passed at the first attempt. Where a candidate's performance or ability to study in one or more Honours courses has been impaired by illness or other circumstances, and an aegrotat consideration is not available, the Dean of Science may permit the candidate to repeat course work and/or undergo assessment one further time.

(c) Subjects passed elsewhere at 400-level: A candidate shall not present a subject for a BSc(Hons) degree which he or she has already passed at an equivalent level for another degree or diploma.

5. Full-time and Part-time Study and the Normal Time Limits

(a) When a candidate is enrolled full-time, the 400-level Honours courses must be completed within 12 months, except as permitted under Regulation 4(b).

(b) With the approval of the Head of Department/School and the Dean of Science, a candidate may be enrolled in Honours courses part-time.

Note: A part-time candidate is one who, because of employment, health, family, or other reasons, is unable to study full-time. Part-time enrolment requires completion within 2 years (24 months), except as permitted under Regulation 4(b).

6. Class of Honours

The Degree of Bachelor of Science with Honours may be awarded with First Class Honours, with Second Class Honours, or with Third Class Honours; the list of candidates obtaining Second Class Honours shall be listed in two divisions (Division I and Division II). The class of honours awarded shall be determined

+ Not open to new enrolments in 2017.

on the performance of the candidate. (Please refer to the General Course and Examination Regulations C: Work and Assessment, for further information.)

7. Candidates Who Fail to Obtain Honours

When a candidate fails to obtain BSc(Hons), the Dean of Science, depending upon the level of achievement and on the advice of the Head of Department/School, may recommend the award of:

i. a Postgraduate Diploma in Science,
ii. a Master of Science Part I,
iii. in the case of students who gained entry to BSc(Hons) under direct entry Regulation 3(1)(c), a BSc, or
iv. course credit, Certificate of Proficiency (COP).

8. Withdrawal from the BSc(Hons) Programme

A candidate who has commenced study for the degree and withdraws from all or part of the programme without completing course assessment requirements may not re-enrol without the permission of the Dean of Science.

9. Combined Honours Degree

A candidate may complete the degree of Bachelor of Science with Honours in two subjects (Combined Honours). Except in the case of the specific Combined Honours degrees whose requirements are stated in Schedule 2 of the BSc(Hons) regulations, a student wishing to complete a Combined BSc(Hons) degree must satisfy the course requirements for entry to 400-level honours in each subject, take 400-level courses totalling at least 60 points in each subject, complete one research project (worth at least 30 points) that normally reflects the combined nature of the degree, and take such additional courses as required by the Dean of Science.

10. Subjects and their Prerequisites for the Degree

The subjects for the degree and their prerequisites are given in the Schedule to these Regulations.

Schedule A to the Regulations for the Degree of Bachelor of Science with Honours

For full course information, go to www.canterbury.ac.nz/courses

Astronomy

ASTR 480, PHYS 407, ASTR 422, ASTR 423 or ASTR 425, PHYS 415, and four other courses from PHYS 411–460, MDPH 403, MDPH 406, with a maximum of two courses from PHYS 440–460.

Not all courses may be offered in any one year. With the approval of the Head of Department, up to two courses may be replaced by appropriate courses from another subject. Note: The choice of courses is subject to the approval of the Head of Department.

P:

(1) 90 points of 300-level ASTR or PHYS courses; and
(2) 30 points of 300-level MATH courses.

Note: Students will normally be expected to have taken PHYS 311, PHYS 312 or PHYS 313, and PHYS 326.

Biochemistry*

Courses totalling at least 120 points and a project (BCHM 480) as approved by the Director of Biochemistry. Normally courses are selected from BCHM 455 (BIOL 455), BCHM 456 (BIOL 456), BCHM 457 (BIOL 457), BCHM 459 (BIOL 459), BCHM 460 (BIOL 460), BCHM 461 (BIOL 461), BCHM 462 (BIOL 462), BCHM 420, and CHEM 421–422. Other suitable courses include: BCHM 407–409, BIOL 429–462, BIOL 481, BIOL 496.

P.

(1) BCHM 221 or BCHM 253 (BIOL 253); and
(2) BCHM 222; and
(3) BCHM 202 (BIOL 231) or BIOL 230; and
(4) BCHM 212 (CHEM 212) or BCHM 205 (CHEM 232) or ENCH 241; and
(5) BCHM 221 and BCHM 222, or BCHM 201; and
(6) BCHM 281 (or CHEM 281); and
(7) At least one of BCHM 206 (CHEM 242) or BCHM 253 (BIOL 253); and
(8) BCHM 301 (BIOL 331); and
(9) BCHM 302 (CHEM 325); and
(10) BCHM 381; and
(11) 15 additional points normally from CHEM 321, 322, 324, 362, 381, BIOL 313, 330, 351 or 352.

Biological Sciences*

Courses totalling at least 120 points including BIOL 411 and BIOL 412 and a project (BIOL 480). At least 60 points are to be selected from other BIOL 400-level courses. The remaining courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P.

** Subject to Universities New Zealand CUAP approval, due December 2016.*

(1) 60 points from 300-level BIOL courses; and
(2) BIOL 309 or GEOG 309 or PSYC 206 or STAT 201 or STAT 202.

Biotechnology*

Courses totalling at least 120 points including BIOL 411, BIOL 412 and BIOL 496 and a project (BIOT 480). At least 30 points are to be selected from BIOL 429, BIOL 455-456, and BIOL 459-461. The remaining courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P.
(1) BIOL 252 or BIOL 254; and
(2) BIOL 352; and
(3) At least 30 points selected from BIOL 313, BIOL 330, BIOL 331, BIOL 333, BIOL 335.

Note: students will normally be expected to take BIOL 309. BIOL 333 and BIOL 335 are 15 point courses.

Cellular and Molecular Biology*

Courses totalling at least 120 points including BIOL 411 and BIOL 412 and a project (CEMB 480). At least 30 points are to be selected from BIOL 455–456 (BCHM 455–456), BIOL 459-462 (BCHM 459–462) and BIOL 496. The remaining courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P: At least 60 points from BCHM 301, BIOL 313, BIOL 330, BIOL 331, BIOL 333, BIOL 334, BIOL 335, BIOL 351, BIOL 352.

Note: students will normally be expected to take BIOL 309.

Chemistry

CHEM 480 and all four of courses CHEM 421–424.

Note: With the approval of the Head of Department, one of the courses CHEM 421–424 may be replaced by Honours 400-level courses from another subject with a total EFTS of at least the same value.

P.
(1) CHEM 211, either CHEM 212 or BCHM 212, and 45 points from CHEM 241–243, BCHM 206; or 60 points from CHEM 211–223 and CHEM 271–273, BCHM 205 and BCHM 206; and
(2) 30 points from CHEM 281–282, BCHM 281, and CHEM 381–382; and
(3) at least 60 points from CHEM 321–373; and
(4) at least one of CHEM 381 and CHEM 382.

P. RP: At least 30 points from courses in Mathematics, Statistics or ENGR 101.

** Subject to Universities New Zealand CUAP approval, due December 2016.*

Computational and Applied Mathematical Sciences

CAMS 449 and eight approved courses chosen from MATH 401–490 and STAT 401–490 (other than MATH 449 or STAT 449). With the approval of the Programme Co-ordinator, candidates may substitute one or two courses from other subjects in an applications area.

P. Met the majoring requirements for entry into a BSc(Hons) in Mathematics, or Statistics, or, with HOS approval, the equivalent.

Computer Science*

COSC 461, COSC 469 and a further 90 points (0.75 EFTS) to be selected (with the approval of the Head of Department) from COSC 401-439, 462–474 and all SENG 400-level courses with the exception of SENG 402. Not all half-courses may be available in one year.

P.
(1) a total of 60 points from 200-level COSC (including ENCE 260); and
(2) a total of 30 points from courses in MATH and STAT (excluding MATH 101) or EMTH; and
(3) 90 points from 300-level COSC (including SENG 301, 302, 365 and ENCE 360, 361).

Ecology*

Courses totalling at least 120 points including BIOL 411 and BIOL 412 and a project (ECOL 480). Additional courses are to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 420, BIOL 423–429, BIOL 438, ENVR 410, and FORE 616.

P.
(1) 60 points from BIOL 370–379; and
(2) BIOL 309 or equivalent.

Economics

ECON 680 and eight courses or their equivalent from ECON 601–679. Normally a grade average of B+ or better is required in 300-level Economics prerequisite courses. Enrolment in any combination of courses is subject to the approval of the Head of Department. Some second semester courses may have a first semester course as a prerequisite. Candidates can normally attempt each course on offer only once. All full-time candidates shall normally take ECON 680 and four other courses or their equivalent in each semester.

P.

(1) ECON 206 or ECON 325; and
(2) ECON 213 or STAT 202 or STAT 213; and
(3) ECON 203 or (ECON 207 and ECON 208); and
(4) 60 points from 300-level Economics courses, including ECON 321, ECON 324, ECON 326 (or equivalent as approved by the Head of Department).

Alternatively, a student may apply to enter with a Graduate Diploma in Economics or a Graduate Diploma in Science, normally including ECON 321, ECON 324 and ECON 326.

Environmental Science

ENVR 410, ENVR 411, a project ENVR 480, and courses totalling not less than 0.75 course weighting selected from relevant courses offered by the Environmental Science home departments/schools of Forestry (FORE), Geography (GEOG), Geological Sciences (GEOL and ENGE), and Biological Sciences (BIOL), and from relevant courses, as approved by the Co-ordinator, that are offered by Antarctic Studies (ANTA), Biochemistry (BCHM), Chemistry (CHEM), Chemical and Process Engineering (ENCH), Civil Engineering (ENCI), and Mathematics and Statistics (MATH and STAT). The selection should form a coherent thematic programme, and must be discussed with the Co-ordinator.

Note that normally all individual course prerequisites must be satisfied.

P: Students who have fulfilled the requirements for honours 200 and 300-level in appropriate courses in Forestry, Geography, Geological Sciences, Biological Science, or other science and engineering courses, including a total of 90 points at 300-level, and as approved by the Co-ordinator, may enrol for Environmental Science honours 400-level.

Evolutionary Biology+

+ Not open to new enrolments in 2017.

Courses totalling at least 120 points including BIOL 411 and BIOL 412 and a project (EVOL 480). At least 30 points are to be selected from BIOL 423, BIOL 429, BIOL 438, BIOL 456, BIOL 459 and BIOL 460. Additional courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P.

(1) BIOL 271; and
(2) 60 points from BIOL 330, BIOL 332, BIOL, 334, BIOL 335, BIOL 371, BIOL 373; and
(3) BIOL 309 or equivalent background in statistics.

Finance and Mathematics

Either:

(a) FINC 680 plus eight additional courses selected from 600-level FINC or 400-level MATH, including at least three courses in FINC and at least four courses in MATH; or
(b) MATH 449 plus eight additional courses selected from 600-level FINC or 400-level MATH, including at least four courses in FINC and at least three courses in MATH.

P.

(1) Candidates must have met the majoring requirements for the BSc in Mathematics and passed FINC 201, FINC 203, FINC 205 and FINC 331; and at least 30 additional points from 300-level FINC courses; or
(2) Candidates must have met the majoring requirements for the BCom or BSc in Finance and passed or 45 points from MATH 201, MATH 202, MATH 203, MATH 270; and at least 45 additional points from MATH 301–394.

Finance and Statistics

Either:

(a) FINC 680 plus eight additional courses in 600-level FINC or 400-level STAT, including at least three courses in FINC and at least four courses in STAT; or
(b) STAT 449 plus eight additional courses in 600-level FINC or 400-level STAT, including at least four courses in FINC and at least three courses in STAT.

P.

(1) Candidates must have met the majoring requirements for the BSc in Statistics and passed FINC 201, FINC 203, FINC 205, and FINC 331; and at least 30 additional points from 300-level FINC courses; or
(2) Candidates must have met the majoring requirements for the BCom or BSc in Finance and passed 45 points from STAT 201–294; and at least 45 additional points from STAT 301–394.

Financial Engineering

STAT 470 and three courses from FINC 621 to FINC 629, and an Honours research project chosen from CAMS 449, FINC 680 or STAT 449. With the approval

of the programme coordinator, the remaining courses should be chosen from COSC 401, ECON 615, ECON 641, ECON 642, ECON 643/FINC 643, FINC 610, FINC 613, FINC 616, FINC 621, FINC 622, FINC 623, FINC 624, FINC 628, FINC 629, MATH 407, MATH 408, MATH 412, STAT 445 and STAT 460. One of the remaining courses should be STAT 456/ECON 614 if the student has not been credited with STAT 317/ECON 323 previously.

P.

(1) All the required courses specified in Schedule A for the BSc in Financial Engineering; and
(2) At least 90 points at 300 level from Schedule B for the BSc in Financial Engineering.

Otherwise, subject to approval of the programme coordinator.

Geography

A Research Project (GEOG 420) and a further 1.0 EFTS or 120 points from GEOG 401–419 and GISC 403–413, with the approval of the Head of Department.
Note: Not all courses will be offered in any one year.

P: Students will normally be expected to either:
(1) have passed 84–90 points in 300-level courses approved by the Head of Department (including GEOG 309 and at least 28–30 other points in 300-level Geography courses); or
(2) to have completed 112–120 points at 300-level of which 56–60 are in Geography and 56–60 are in subjects approved by the Head of Department.

Geology

Seven courses chosen from GEOL 473–489 and a research project (GEOL 490), with the approval of the Head of the Department of Geological Sciences.

Notes:

1. *With the approval of the Head of the Department of Geological Sciences, up to three courses from another relevant subject may replace three of the courses, or one full year course from another relevant subject may replace two courses.*
2. *Practical and fieldwork may be required as part of any GEOL 473–489 courses.*
3. *Not all courses may be offered in any one year.*

P.

(1) GEOL 240 and GEOL 241 (or equivalent fieldwork); and
(2) at least 45 points from GEOL 232–238 or GEOL 242–245; and
(3) normally at least 60 points from ASTR, BIOL, CHEM, COSC, GEOG, MATH, PHYS, or STAT courses; and
(4) GEOL 351 and GEOL 352 (or equivalent fieldwork); and
(5) 60 points from other GEOL 300-level courses.

Notes:

1. *An additional 30 points at GEOL 300-level is strongly advisable.*
2. *The above courses to have been passed with a grade average that meets the approval of the Head of Department (the normal requirement is at least a B+ grade average).*

Mathematics

MATH 449 and eight courses chosen from MATH 401–490 and STAT 401–490 (other than MATH 449 or STAT 449). Normally one of the eight courses must be MATH 443 if the student has not been credited with MATH 343 previously. Normally at least six courses will be chosen from the MATH course list.

P.

(1) 45 points from MATH 201, MATH 202, MATH 203, MATH 220 and MATH 240, including MATH 201 and at least one of (MATH 202 or MATH 203); and
(2) 60 points from MATH 301–394; and
(3) An additional 30 points from MATH 301–394 and STAT 301–394 or other approved courses.

Mathematics and Philosophy

MPHI 450, and seven courses chosen from MATH 401–490 (other than MATH 449) and PHIL 431–470. Normally one of the seven courses must be MATH 443 if the student has not been credited with MATH 343 previously. Normally two courses will be chosen from the PHIL course list and five courses from the MATH course list.

P.

(1) 45 points from MATH 201–294; and
(2) 60 points from MATH 301–394; and
(3) 45 points from PHIL 208, PHIL 209, PHIL 233, HAPS 201, HAPS 202, MATH 230; and
(4) 45 points from PHIL 301–399, HAPS 302, MATH 308, MATH 309, MATH 336.

Mathematical Physics

PHYS 407, MAPH 480, and a further seven courses, of which two-three are to be chosen from MATH 401–443 and the remainder from PHYS 411–460,

ASTR 421–425. A maximum of two courses may be chosen from PHYS 440–460. Not all courses may be available in any one year. *Note: The choice of courses is subject to the approval of the Head of Department, Physics and Astronomy.*

P.

(1) PHYS 203, PHYS 205, PHYS 206; and
(2) MATH 201–203; and
(3) 60 points PHYS 300-level and 60 points MATH 300-level courses chosen with the approval of the Head of Department, Physics and Astronomy. *Note: Students will normally be expected to have taken PHYS 311, 312 or 313, 326; and 60 points from MATH 302, 303, 321, 343, 363, 365.*

Medical Physics

MDPH 407, MDPH 480 and six courses from MDPH 401–410 and one course from PHYS 410–460. With the approval of the Head of Department, up to two of the courses may be replaced by appropriate courses from another subject. Note: The choice of courses is subject to the approval of the Head of Department.

P: 90 points at 300-level, approved by the Head of Department.

Microbiology*

Courses totalling at least 120 points including BIOL 411, BIOL 412, BIOL 455 (BCHM 455) and BIOL 456 (BCHM 456) and a project (MBIO 480). At least 30 points are to be selected from BIOL 457 (BCHM 457), BIOL 459 (BCHM 459), BIOL 460 (BCHM 460), BIOL 463 and BIOL 496. Additional courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P.

(1) BIOL 313; and
(2) At least 30 points selected from BCHM 301, BIOL 331, BIOL 330, BIOL 333, BIOL 335, BIOL 351.

Note: Students will normally be expected to take BIOL 309.

Physics

PHYS 407, PHYS 480 and seven courses chosen from PHYS 411–460, ASTR 421–425, MDPH 403, MDPH 406. A maximum of two courses from PHYS 440–460. Not all courses may be available in any one year. With the approval of the Head of Department, up to two of the courses may be replaced by appropriate courses from another subject. Note: The choice of courses is subject to the approval of the Head of Department.

P.

(1) 90 points of 300-level PHYS or ASTR courses; and
(2) 30 points of 300-level MATH courses.

Note: Students will normally be expected to have taken PHYS 311, PHYS 312 and PHYS 326.

Plant Biology+

+ Not open to new enrolments in 2017.

Courses totalling at least 120 points including BIOL 411 and BIOL 412 and a project (PBIO 480). Remaining courses are to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 423-429, BIOL 455, BIOL 459–461, BIOL 463 and BIOL 496.

P: At least 60 points from 300-level BIOL courses.

Note: Students will normally be expected to take BIOL 309.

Psychology*

Courses totalling 150 points (1.25 EFTS) selected from any 400-level courses in Psychology, and including PSYC 460 and PSYC 470 (Project).

P.

(1) PSYC 105 and PSYC 106; and
(2) PSYC 206, and three courses from PSYC 207–212; and
(3) At least 75 points of 300-level PSYC, including PSYC 344.

An average of a B+ grade in three PSYC 300-level courses is normally required.

Statistics

STAT 449 and eight courses chosen from STAT 401–490 and MATH 401–490 (other than STAT 449 or MATH 449). Normally one of the eight courses will be STAT 464 if the student has not been credited with STAT 213 or STAT 214 previously. Normally at least six courses will be chosen from the STAT course list.

P.

(1) MATH 103, MATH 109 or MATH 199; and
(2) 45 points from STAT 201–294; and
(3) 60 points from STAT 301–394; and
(4) An additional 30 points from STAT 301–394 and MATH 301–394 or other approved courses.

Zoology+

+ Not open to new enrolments in 2017.

Courses totalling at least 120 points including

** Subject to Universities New Zealand CUAP approval, due December 2016.*

BIOL 411 and BIOL 412 and a project (ZOOL 480). Additional courses are to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 424-429, BIOL 459-463 and BIOL 481.

P: At least 60 points from 300-level BIOL courses.
Note: Students will normally be expected to take BIOL 309.

Schedule B to the Regulations for the Degree of Bachelor of Science with Honours

For full course information, go to www.canterbury.ac.nz/courses

Economics and Mathematics

Either:
(a) ECON 680 plus eight additional courses in 600-level ECON or 400-level MATH, including at least three courses in ECON and at least four courses in MATH; or
(b) MATH 449 plus eight additional courses in 600-level ECON or 400-level MATH including at least four courses in ECON and at least three courses in MATH.

P.
(1) STAT 213 or (STAT 212 and STAT 214); and
(2) 45 points from MATH 201–294, normally including MATH 201, 203, 240; and
(3) 60 points from 300-level ECON including 45 points from ECON 321, 324, 326 and 331; and
(4) 60 points from MATH 301–394 or STAT 301–394, including at least 30 points from MATH 301–394 and MATH 343.

Mathematics and Statistics

MATH 449 or STAT 449; and eight courses chosen from MATH 401–490 and STAT 401–490 (other than MATH 449 or STAT 449). Normally one of the eight courses will be MATH 443 if the student has not been credited with MATH 343 previously, and normally one of the eight courses will be STAT 464 if the student has not been credited with STAT 213 or STAT 214 previously. At least three courses must be chosen from the MATH course list and at least three courses must be chosen from the STAT course list.

P.
(1) 45 points from MATH 201, MATH 202, MATH 203, MATH 220 and MATH 240, including MATH 201 and at least one of (MATH 202 or MATH 203); and
(2) 45 points from STAT 201–294; and
(3) 105 points from MATH 301–394 and STAT 301–394, including at least 45 points from each of the MATH and STAT course lists.

The Degree of Master of Antarctic Studies (MASt)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

Every candidate for the degree of Master of Antarctic Studies, before enrolling for the degree, shall have:
(a) either qualified for the Postgraduate Certificate in Antarctic Studies; or
(b) been admitted ad eundem statum to enrol for the Master of Antarctic Studies; and
(c) presented evidence of ability for advanced level academic study by normally having achieved a B average in 400-level (or equivalent) courses; and
(d) been approved as a candidate by the Dean of Science.

2. Structure of the Degree

To qualify for the degree of Master of Antarctic Studies, a student has to satisfactorily complete:
(a) All courses required for the Postgraduate Certificate in Antarctic Studies; and
(b) Approved courses to a value of 30 points/ 0.250 EFTS at 400-level or above; and
(c) A dissertation: ANTA 691

3. Full-time and Part-time Enrolment

A candidate may be enrolled for the degree of Master of Antarctic Studies either on a full-time or part-time basis. A part-time candidate is one who, because of employment, health, family or other reasons, is unable to devote his or her full-time to study. Part-time enrolment requires the approval of the Dean of Science and is not possible for ANTA 601–604.

4. Duration of the Programme

The degree of Master of Antarctic Studies is expected to be completed within one calendar year beginning in November.

Any student seeking to complete outside of these timeframes must seek the permission of the Programme Director and the Dean of Science.

5. Award of the Degree with Distinction or Merit

The degree of Master of Antarctic Studies may be awarded Distinction or Merit.

Note: The award of Distinction indicates a grade average in the range A+ to A-; the award of Merit indicates a grade average of B+.

6. Requirements

(a) Candidates must satisfy the selection criteria for the Postgraduate Certificate in Antarctic Studies before being able to enrol in the Master of Antarctic Studies, unless they have been admitted ad eundem statum to enrol for MAST as outlined under points 1 (b) and 1 (c) above.

(b) Re-enrolment to repeat a failed course or offer any other course in its place will only be permitted in exceptional circumstances with the permission of the Programme Director and the Dean of Science.

Schedule to the Regulations for the Degree of Master of Antarctic Studies

For full course information, go to www.canterbury.ac.nz/courses

(a) Courses listed in the schedule for the award of the Postgraduate Certificate in Antarctic Studies;

(b) ANTA 691 Antarctic Studies Masters Dissertation (0.75 EFTS).

The Degree of Master of Applied Data Science (MADS)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

Every candidate for the degree of Master of Applied Data Science (MADS), before applying to enrol in the degree, shall have:

(a) qualified for a university degree in an area which is relevant to data science e.g. biological sciences, computer science, digital humanities, economics, environmental science, finance, geography, geology, mathematics, physics, psychology, statistics, or any other relevant degree subject to approval of the Programme Director; and

(b) normally at least 90 points in relevant 300-level courses passed with a grade average that meets the approval of the Programme Director (the normal requirement is at least a B grade average); and

(c) have meet the prerequisites as specified in the BSc(Hons) or BA(Hons) regulations in at least one relevant subject to allow enrolment in 400-level courses, or higher, to fulfil the group B requirements; and

(d) been approved as a candidate for the degree by the Dean of Science.

2. Structure of the Degree

To qualify for the Degree of Master in Applied Data Science a candidate must complete a total of 180 points including:

(a) Up to 45 points from the Foundation courses listed in the schedule to the degree. Students who have completed an undergraduate degree that includes related undergraduate courses may substitute one or more foundation courses with other approved courses from Group B by approval of the Programme Director.

(b) All Group A courses listed in the schedule to the degree. With approval of the Programme Director students may substitute one or more of these courses with a more advanced course on the topic.

(c) At least 15 points from Group B courses listed in the schedule to the degree.

(d) DATA 601 Applied Data Science Project.

3. Full Time/Part-time Enrolment

A candidate may be enrolled for the degree of Master of Applied Data Science either on a full-time or part-time basis. A candidate may, because of employment, health, family or other reasons, enrol part-time with the approval of the Dean of Science.

4. Duration of the Programme

A candidate should normally follow a course of study of between 12 and 24 months. The maximum time allowed for a part-time candidate is 5 years.

5. Requirements for the Programme

(a) Candidates must satisfy the Programme Director that they have the necessary prerequisite knowledge to undertake the proposed courses from the schedule.
(b) All Group A courses listed in the schedule to the degree. With approval of the Programme Director students may substitute one or more of these courses with a more advanced course on the topic.
(c) The project, DATA 601, if failed cannot be repeated, in which case a Postgraduate Diploma in Applied Data Science may be awarded if the candidate meets the requirements of the Diploma.

Note: Practical and fieldwork may be required as part of any course.

6. Award of Masters with Distinction or Merit

The Master of Applied Data Science may be awarded with Distinction or Merit.

Note: The award of Distinction indicates a grade point average of 7.0 or greater; the award of Merit indicates a grade point average of 6.0-6.9.

Schedule to the Regulations for the Degree of Master of Applied Data Science

For full course information, go to www.canterbury.ac.nz/courses

Foundation Courses: Foundational Data Science Competencies

Students will be required by the Programme Director to enrol in all the foundation courses unless there is evidence of prior learning in the fundamentals of data science:
(a) DATA 401 Statistics (15 points)
(b) COSC 480 Computer Programming (15 points)
(c) MBIS 623 Data Management (15 points).

Group A: Advanced Data Science Competencies

Students will be required to take the following courses. With approval of the Programme Director, other relevant courses can be substituted:
(a) MBIS 624 Data Analytics (15 points)
(b) DIGI 401 Digital Methods (30 points) or other Digital Humanities 400-level course as approved by the Programme Director
(c) STAT 447 Official Statistics (15 points)
(d) STAT 448 Big Data (15 points).

Group B: Domain Specific Competencies

400 or 600-level courses in Biological Sciences, Computer Science, Digital Humanities, Economics, Environmental Science, Finance, Geography, Geology, Mathematics, Physics, Psychology, Statistics, or in any other relevant degree subject as approved by the Programme Director and the HOD of the relevant department. This group would normally include a course with a specified work-integrated learning component.

Data Science Project

DATA 601 Applied Data Science Project (45 points)

The Degree of Master of Audiology (MAud)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

(a) Either:
  i. qualified for the award of the Degree of Bachelor of Speech and Language Pathology with Honours; or
  ii. qualified for the award of the Degree of Bachelor of Science, the Degree of Bachelor of Arts, the Degree of Bachelor of Engineering - Electrical, the Degree of Bachelor of Engineering - Mechanical, the Degree of Bachelor of Teaching and Learning (Early Childhood), or the Degree of Bachelor of Teaching and Learning (Primary), with relevant undergraduate course work, as approved by the Head of the Department of Communication Disorders; or
  iii. been admitted ad eundem statum as entitled to enrol for the degree of Master of Audiology; and
(b) been approved as a candidate for the degree by the Dean of Science.

Note: Entry into Year 1 of the Master of Audiology is limited. Candidates must submit an enrolment application and a separate application form to the Head of the Department of Communication Disorders by 1st October. Late applications will be considered subject to the availability of places in the programme. Selection is based on academic merit, a statement of interest and an interview with Departmental Representatives.

2. Full-time and Part-time Study

A candidate shall normally be enrolled as a full-time candidate. A full-time candidate is one who throughout the calendar year regards study and research for the Master of Audiology as a full-time occupation.

With the approval of the Dean of Science, a candidate may be enrolled as a part-time candidate. A part-time candidate is one who because of employment, health, family or other reasons is unable to devote his or her full-time to study.

Total course weighting for the MAud is 2.00 EFTS.

3. Structure of the Degree

A candidate for the Degree of Master of Audiology shall:

(a) enrol in and pursue either full-time for 2 years or part-time for no less than 3 years and no more than 4 years a programme of study approved by the Dean of Science;
(b) during the programme of study, pass the required courses as specified in the Schedule to these regulations if enrolled as a full-time student or, if enrolled as a part-time student, pass all courses listed in the Schedule in a programme of study over three years, as determined by the Dean of Science;
(c) during the programme of study, complete a thesis and satisfy the examiners therewith.

4. Repeating of Courses

A candidate who fails any of the academic courses in Year 1 (CMDS 651, CMDS 652, CMDS 653, CMDS 655, CMDS 656, CMDS 657), may repeat those courses, but may not progress to the Year 2 curriculum until all those courses are passed.

A candidate who fails either the clinical courses (CMDS 654, CMDS 658) or the thesis (CMDS 690) shall not be permitted to repeat those courses, or offer any other courses in their place.

5. Supervision of Theses

(a) A candidate shall, before commencing the research to be described in the thesis, secure the approval of the Head of the Department concerned for the topic chosen and for the proposed research programme.
(b) Supervisors shall be appointed in accordance with the General Course and Examination Regulations, Part L.
(c) The candidate shall meet with and report to the senior supervisor as has been determined under the agreement signed on registration of the research proposal. The candidate shall normally work on the University campus, and laboratory work shall normally be carried out within the University institution. The Head of Department may give approval for work to be carried out at another institution in New Zealand for a period not exceeding one month, but permission of the Dean of Postgraduate Studies is required if the period exceeds one month, or if any of the work, including field work, is to be carried out overseas.

6. Examination of Theses

(a) When a thesis is examined, there shall be two examiners, as specified in the General Course and Examination Regulations, Part L.
(b) A candidate must indicate in the thesis any part which he or she has previously used for another degree.
(c) The examiners may require the candidate to undergo an oral examination on the subject of the thesis or on related subjects.
(d) If the thesis at its first presentation is unsatisfactory, the Dean of Science may, on the recommendation of the examiners, permit the candidate to revise the thesis and re-submit it by a specified date.
(e) If the examiners' final recommendation is that the thesis be awarded a failing grade, the degree of Master of Audiology shall not be awarded.

7. MAud with Distinction

In cases of exceptional merit candidates may, on the recommendation of the examiners, have the degree awarded with Distinction. In recommending a candidate for admission to the degree and in recommending Distinction the examiners will take into consideration the combined results of the thesis, clinical practice, and other courses taken.

Note: The award of Distinction normally requires a grade point average of 7.00 or greater.

Schedule to the Regulations for the Degree of Master of Audiology

For full course information, go to www.canterbury.ac.nz/courses

Year 1

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
CMDS 651	Foundation Topics in Audiology	15	S1	P: Approval of the Head of Department. RP: BSc, BSLP (Hons)
CMDS 652	Diagnostic Audiological Evaluation	15	S1	P: Approval of the Head of Department. RP: BSc, BSLP (Hons)
CMDS 653	Audiological Rehabilitation	15	S1	P: Approval of the Head of Department. RP: BSc, BSLP (Hons)
CMDS 654	Clinical Practicum I	30	X	P: Approval of the Head of Department. RP: BSc, BSLP (Hons)
CMDS 655	Advanced Topics in Audiology	15	S2	P: Approval of the Head of Department, CMDS 651. RP: BSc, BSLP (Hons)
CMDS 656	Advanced Diagnostic Audiological Evaluation	15	S2	P: Approval of the Head of Department, CMDS 652. RP: BSc, BSLP (Hons)
CMDS 657	Advanced Audiological Rehabilitation	15	S2	P: Approval of the Head of Department, CMDS 653. RP: BSc, BSLP (Hons)

Year 1 Total EFTS *1.0000 EFTS*

Year 2

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
CMDS 658	Clinical Practicum II	30	X	P: Approval of the Head of Department, CMDS 654. RP: BSc, BSLP (Hons)
CMDS 690	Audiology Thesis	90	NO	P: Approval from the Head of Department. RP: BSc, BSLP (Hons)

Year 2 Total EFTS *1.0000 EFTS*

The Thesis

A Year 1 grade average of B is normally required for entry to the thesis. Thesis must be completed within 12 months (full-time) and may be started in either the summer at the end of Year 1, or the first semester of Year 2, finishing in either the second semester of Year 2 or the summer of Year 2, respectively. Note: Part-time enrolment in the thesis (0.6500 EFTS) is available on approval.

The Degree of Master of Disaster, Risk and Resilience (MDRR)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

Every candidate for the degree of Master of Disaster, Risk and Resilience (MDRR), before applying to enrol in the degree, shall have:

(a) qualified for a university degree which is relevant to Disaster, Risk and Resilience, normally with a B+ average or higher in the final year; and

(b) 15 points/0.125 EFTS from STAT 100-level courses or equivalent.

Note: This prerequisite may be waived by the Head of Department if the student can demonstrate an existing suitably high level of ability in mathematics and/or statistics.

2. Admission to the Degree

Students planning to complete a Master of Disaster, Risk and Resilience must apply for admission to the degree programme. Applications for admission must be received by the Department of Geological Sciences on the prescribed form no later than 30 January in the year of desired entry. It is the responsibility of the student to ensure that an up-to-date official academic record is sent to the

Department of Geological Sciences as soon it is available. Students must also Apply to Enrol.

Notes: Students with a B+ grade average and fulfilling all prerequisites will be enrolled first with Head of Department approval, up to a total of 18 students in the dissertation course DRRE 691 Part I. If fewer than 18 students meeting these criteria enrol in DRRE 691 as of three weeks before the start of the semester, students with a B grade average and fulfilling all prerequisites will be enrolled with Head of Department approval in the remaining places on a merit basis.

3. Structure of the Degree

To qualify for the Degree of Master of Disaster, Risk and Resilience a candidate must normally complete:

(a) Required courses as listed in Regulation 6(a); and
(b) Approved courses to bring the total points to at least 180 points.

4. Full-time/Part-time Enrolment

A candidate may be enrolled for the degree of Master of Disaster, Risk and Resilience either on a full-time or part-time basis. A candidate may, because of employment, health, family or other reasons, enrol part-time with the approval of the Dean of Science.

5. Duration of the Programme

(a) A candidate enrolling full-time shall normally follow a course of study for not less than 12 months of full-time study. A candidate enrolling part-time must normally complete the degree within 24 months of first enrolment.
(b) The time limits for the dissertation will normally be no less than four months of full-time and no more than eight months of part-time study.

6. Requirements for Courses

(a) The coursework shall normally comprise:
    i. DRRE 401, DRRE 402, ERST 604 (Lincoln University), ERST 609 (Lincoln University), DRRE 403;
    ii. DRRE 408 (unless prior work in GIS is approved by the Director of Studies);
    iii. other courses at 400-level (University of Canterbury) or 600-level (Lincoln University), approved by the Director of Studies, to bring the total points to at least 180 points; *or* other courses at 400-level (University of Canterbury) or 600-level (Lincoln University), approved by the Director of Studies, to bring the total points to at least 120 points *and* a 0.5 EFTS dissertation (DRRE 691). Any variation to the coursework requirements requires approval by the Programme Director.
(b) Candidates must satisfy the Programme Director that they have the necessary prerequisite knowledge to undertake the proposed courses from the above list.
(c) A candidate who fails one course (but not DRRE 691) with a grade of D or higher may be permitted to pass the programme as a whole if their overall grade point average (including the dissertation) is B or higher.
(d) Re-enrolment to repeat any failed course or offer any other course in its place will only be permitted in exceptional circumstances and requires a recommendation from the Programme Director and the permission of the Dean of Science.
(e) A candidate who fails any course and is not successful under Regulation 6(c) will be awarded a Certificate of Proficiency for each course passed.

Note: Practical and fieldwork may be required as part of any course.

7. Award of Master with Distinction or Merit

The Master of Disaster, Risk and Resilience may be awarded with Distinction or Merit.

Note: The award of Distinction indicates a grade point average of 7.0 or greater; the award of Merit indicates a grade point average of 6.0-6.9.

8. Requirements for the Dissertation (DRRE 691, 0.5 EFTS)

The dissertation shall embody the results of an investigation or professional project in a subject area approved by the Director of Studies. If the consensus at the final examination is that the dissertation be awarded a failing grade, the degree of Master of Disaster, Risk and Resilience shall not be awarded.

9. Transfer from MDRR to MSc (Disaster, Risk and Resilience)

A candidate who has completed the courses component of MDRR with an average grade of B+ or better may apply to the Dean of Science for transfer to MSc in Disaster, Risk and Resilience.

The Degree of Master of Financial Engineering (MFEng)*

** Subject to Universities New Zealand CUAP approval, due December 2016.*

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

Every candidate for the Degree of Master of Financial Engineering (MFEng), before enrolling in the course of study for this degree, shall have:

(a) both
   i. qualified for a degree in a New Zealand university with a B+ average in the 300-level courses, and
   ii. been approved as a candidate for the degree by the Dean of Science;

(b) as well as:
   i. STAT 101 or equivalent, and
   ii. FINC 201 or equivalent, and
   iii. any two of MATH 201, MATH 202, MATH 203, STAT 213, or equivalent.

Note: Relevance and standard of undergraduate studies are the main criteria for approval.

2. Structure of the Degree

Students are required to take 180 points as follows:

(a) 135 points comprising:
   i. STAT 456 and MATH 412 and at least a further 30 points from MATH and STAT 400-level.
   ii. FINC 612 and FINC 623 plus at least a further 15 points from FINC 624, FINC 628, FINC 629 or other FINC 600-level courses as approved by the Head of Department of Economics and Finance.
   iii. COSC 480.
   iv. An additional 15 points from MATH, STAT or FINC 400 to 600-level courses as approved by the Director of Financial Engineering.

(b) FENG 601.

Notes:

1. *Students who have completed any of STAT 456, MATH 412, FINC 312, FINC 612, FINC 623 or COSC 480 prior to enrolling in the MFEng will be required to take a substitute course approved by the Director of Financial Engineering.*
2. *Students who have only the minimum statistics and finance backgrounds (1(b)(i) and 1(b)(ii)) may be required to successfully complete FIEC 601 prior to enrolling in the MFEng.*
3. *Enrolment in any combination of courses is subject to the approval of the Head of Department.*
4. *Candidates can normally attempt each course on offer only once.*

The Degree of Master of Geographic Information Science (MGIS)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

Every candidate for the degree of Master of Geographic Information Science (MGIS), before enrolling in the degree, shall have:

(a) either
   i. qualified for the Postgraduate Diploma in Geographic Information Science (PGDipGIS), or an equivalent postgraduate qualification, normally with a B average or better; or
   ii. qualified for a degree in a New Zealand University which is of relevance to the proposed course of study, normally with a B average or higher; and
   iii. presented evidence of ability for advanced level academic study; or
   iv. been admitted ad eundem status to enrol for the Master of Geographic Information Science.

(b) and
   i. completed at least two undergraduate courses in GIS, at least one of which should be at 300-level or higher, as approved by the Director: GIS; or
   ii. significant relevant work experience to serve as adequate preparation for the MGIS, as approved by the Director: GIS.

(c) Every candidate for the degree shall have been approved as a candidate by the Director: GIS.

2. Admission to the Degree

Students planning to complete a Master of GIS must apply for admission to the degree programme. Applications for admission must be received by the Department of Geography on the prescribed form no later than 30 January in the year preceding desired entry. It is the responsibility of the student to ensure that an up-to-date official academic record is sent to the Department of Geography as soon as it is

available. Students must also Apply to Enrol.

3. Structure of the Degree

The programme for the degree of Master of GIS consists of Part I and Part II:

(a) A candidate admitted to the programme shall complete both Parts. A minimum of 120 points/1.00 EFTS must be completed successfully for each part, totalling a minimum of 240 points/2.00 EFTS.
(b) A candidate admitted under regulation 1(a) i. will complete MGIS Part II by Thesis only, 120 points/1.00 EFTS.
(c) All students admitted to the Master of GIS will complete a coherent programme of study approved by the Director: GIS.

4. Award of the Degree with Honours, Distinction or Merit

(a) The degree of Master of GIS may be awarded with honours. There shall be two classes of Honours: First class Honours and Second Class Honours. Second Class Honours shall be awarded in two divisions: Division I and Division II.
(b) The degree of Master of GIS may be awarded with Distinction or Merit, where the candidate has completed Part II by thesis only.

5. Full-time/Part-time Enrolment

A candidate may be enrolled for the degree of Master of GIS either on a full-time or part-time basis. A part-time candidate is one who, because of employment, health, family or other reasons, is unable to devote his or her full time to study. Part-time enrolment requires approval from the Director: GIS.

6. Duration of the Course

(a) A candidate offering both Part I and Part II shall normally follow a course of study for not less than two years of full-time study, and Part I will be completed in not less than one year and no more than two years of part-time study.
(b) The time limits for the thesis or research project will normally be no less than one year and no more than two years of full-time study.
(c) A part-time candidate shall be required to follow a programme of study with time limits determined by the Dean of Science on the recommendation of the Director: GIS.

7. Requirements for Part I

(a) The requirements for Part I shall be GISC 401, GISC 402, GISC 403, and GISC 404, two or more of GISC 405–417, with the option of any two other 400-level courses (to a maximum of 0.25 EFTS) as approved by the Director: GIS and listed in the University of Canterbury Calendar. The total course weight for the Part I programme will be at least 1.0 EFTS. Please refer to the schedule at the end of these regulations.
(b) Candidates must satisfy the Director: GIS, that they have the necessary prerequisite knowledge to undertake the proposed courses from the schedule.
(c) Re-enrolment in Part I to repeat any failed courses or offer any other course in its place will only be permitted in exceptional circumstances and requires a recommendation from the Director: GIS and the permission of the Dean of Science.
(d) A candidate who fails any courses offered for Part I and is not successful under Regulation 7(c), shall not be awarded a pass in Part I and shall not be permitted to proceed to Part II, but will be awarded a Certificate of Proficiency for each course passed.
(e) A candidate who passes all of the courses for Part I, but who does not attain a B grade average or better shall not be permitted to proceed to Part II (unless special permission has been granted by the Dean of Science), but may apply for the award of the Postgraduate Diploma in Geographic Information Science (PGDipGIS). The candidate may also apply to the Director: GIS to repeat relevant courses to obtain a B grade average.
(f) A candidate who passes all the courses for Part I and is eligible to proceed to Part II, but who chooses not to do so, may apply for the award of the Postgraduate Diploma in Geographic Information Science (PGDipGIS).

Note: Course work shall consist of approved courses at 400-level or higher (to a maximum of 0.25 EFTS) from the University of Canterbury or another tertiary education institution in New Zealand as approved by the Director: GIS.

8. Requirements for Part II

(a) Part II shall consist of the preparation of a thesis to the value of 1.0 EFTS embodying the results of an investigation in a subject area approved by the Director: GIS. The requirements of the General Course and Examination Regulations, Part L, shall be met.
(b) If the examiners' final examination is that the thesis be awarded a failing grade, the degree of Master of Geographic Information Science shall not be awarded.

9. Weighting of Parts I and II

The weighting ratio Part I and II is: 1:1.

Schedule to the Regulations for the Degree of Master of Geographic Information Science

For full course information, go to www.canterbury.ac.nz/courses

Part I

All of the following four courses:
(a) GISC 401 Foundations of Geographic Information Science (0.125 EFTS)
(b) GISC 402 Geographic Information Science Research (0.125 EFTS)
(c) GISC 403 Cartography and Geovisualisation (0.125 EFTS)
(d) GISC 404 Geospatial Analysis (0.125 EFTS)

Group A

At least one of the following courses:
(a) GISC 405 GIS Programming and Databases (0.125 EFTS)
(b) GISC 406 Remote Sensing for Earth Observation (0.125 EFTS)

Group B

At least one of the following courses:
(a) GISC 410 GIS 2.0 (0.125 EFTS) (Offered by Victoria University of Wellington)
(b) GISC 411 GIS in Health (0.125 EFTS)
(c) GISC 412 Spatial Algorithms and Programming (0.125 EFTS)
(d) GISC 413 Special Topic: Geomatic Data Acquisition Techniques (0.125 EFTS)
(e) GISC 415 Geographic Information Systems (GIS) Internships (0.125 EFTS)
(f) GISC 416 Special Topic (0.125 EFTS)

And/or two other courses at 400-level or higher (to a maximum of 0.25 EFTS) relevant to a coherent programme of study with approval of the Director: GIS.

A total course weighting of at least 1.0 EFTS must be completed.

Part II

GISC 690 GIS Thesis (1.0 ETFS)

The Degree of Master of Hazard and Disaster Management (MHDM)*

** Not open to new enrolments in 2017. Please refer to the Master of Disaster, Risk and Resilience degree.*

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

Every candidate for the degree of Master of Hazard and Disaster Management (MHDM), before applying to enrol in the degree, shall have:
(a) qualified for a university degree which is relevant to hazard and disaster management, normally with a B+ average or higher in the final year; and
(b)
  i. normally at least 90 points/ 0.75 EFTS from 300-level courses in the schedule to the BSc regulations; these courses to have been passed with a grade average that meets the approval of the Programme Director (the normal requirement is at least a B grade average); and
  ii. 15 points/0.125 EFTS from STAT 100-level courses or equivalent (Note: This prerequisite may be waived by the Head of Department if the student can demonstrate an existing suitably high level of ability in Mathematics and/or Statistics).

2. Admission to the Degree

Students planning to complete a Master of Hazard and Disaster Management must apply for admission to the degree programme. Applications for admission must be received by the Department of Geological Sciences on the prescribed form no later than 30 January in the year of desired entry. It is the responsibility of the student to ensure that an up-to-date official academic record is sent to the Department of Geological Sciences as soon it is available. Students must also Apply to Enrol.

Notes: Students with a B+ grade average and fulfilling all prerequisites will be enrolled first with Head of Department approval, up to a total of 18 students across MHDM and MSc (Hazard and Disaster Management) Part I. If fewer than 18 students meeting these criteria enrol as of three weeks before the start of the semester, students with a B grade average and fulfilling all prerequisites will be enrolled with Head of Department approval in the remaining places on a merit basis.

3. Structure of the Degree

To qualify for the Degree of Master of Hazard and Disaster Management a candidate must complete:

(a) Four required courses as listed in Regulation 6(a); and
(b) Approved courses totalling 0.5 EFTS; and
(c) A dissertation (HAZM 691).

4. Full-time and Part-time Enrolment

A candidate may be enrolled for the degree of Master of Hazard and Disaster Management either on a full-time or part-time basis. A candidate may, because of employment, health, family or other reasons, enrol part-time with the approval of the Dean of Science.

5. Duration of the Programme

A candidate enrolling full-time shall normally follow a course of study for not less than 12 months of full-time study. A candidate enrolling part-time must normally complete the degree within 24 months of first enrolment.

(a) The time limits for the dissertation will normally be no less than four months of full-time and no more than eight months of part-time study.

6. Requirements for Courses

(a) The coursework shall comprise:
  i. HAZM 401, HAZM 403, HAZM 408 (unless prior work in GIS is approved by the Director of Studies, in which case another approved 0.125 EFTS course can be substituted for HAZM 408), and HAZM 410; and
  ii. other courses totalling 0.5 EFTS at 400-level, approved by the Director of Studies; and
  iii. a 0.5 EFTS dissertation (HAZM 691).
(b) Candidates must satisfy the Programme Director that they have the necessary prerequisite knowledge to undertake the proposed courses from the above list.
(c) A candidate who fails one course (but not HAZM 691) with a grade of D or higher may be permitted to pass the programme as a whole if their overall grade point average (including the dissertation) is B or higher.
(d) Re-enrolment to repeat any failed course or offer any other course in its place will only be permitted in exceptional circumstances and requires a recommendation from the Programme Director and the permission of the Dean of Science.
(e) A candidate who fails any course and is not successful under Regulation 6(c) will be awarded a Certificate of Proficiency for each course passed.

Note: Practical and fieldwork may be required as part of any course.

7. Award of Master with Distinction or Merit

The Master of Hazard and Disaster Management may be awarded with Distinction or Merit.

Note: The award of Distinction indicates a grade point average of 7.0 or greater; the award of Merit indicates a grade point average of 6.0-6.9.

8. Requirements for the Dissertation (HAZM 691, 0.5 EFTS)

The dissertation shall embody the results of an investigation in a subject area approved by the Director of Studies. The requirements of the General Course and Examination Regulations, Part L, shall be met.

If the consensus at the final examination is that the dissertation be awarded a failing grade, the degree of Master of Hazard and Disaster Management shall not be awarded.

9. Transfer from MHDM to MSc in Hazard and Disaster Management

A candidate who has completed the courses component of MHDM with an average grade of B+ or better may apply to the Dean of Science for transfer to MSc in Hazard and Disaster Management.

The Degree of Master of Science (MSc)

See also General Course and Examination Regulations.

1. Subjects in Which the Degree May be Awarded; Award of Degree with Distinction or Merit, or Honours

(a) The subjects for the Degree of Master of Science are those listed in Schedule A to these Regulations.
(b) The Degree of Master of Science may be awarded with Distinction or Merit provided that the additional requirements of Regulation 14 are met.
(c) The Degree of Master of Science may be awarded with Honours provided that the additional requirements of Regulation 15 are met.

2. Qualifications Required to Enrol in the Degree

(a) Every candidate for the Degree of Master of Science shall, before enrolling for the degree, fulfil one of the following conditions: either
  i. qualify for the award of the ordinary Degree of Bachelor of Science; or

ii. qualify for a bachelor's degree and if necessary pass a qualifying programme consisting of such courses from the schedule to the regulations for the Degree of Bachelor of Science as may be required by the Dean of Science; or
iii. qualify for the award of the Degree of Bachelor of Science with Honours; or
iv. qualify for the award of the Degree of Bachelor of Speech and Language Pathology with Honours; or
v. qualify for the award of a Postgraduate Diploma in Science (Note: Candidates who qualify for a Canterbury PGDipSc are subject to the provisions of PGDipSc Regulation 5); or
vi. qualify for the award of a Postgraduate Diploma in Science (Hazard and Disaster Management *(Note: Candidates who qualify for the Canterbury Postgraduate Diploma in Science (Hazard and Disaster Management) are subject to the provisions of the PGDipSc Regulation 5)*; or
vii. be admitted ad eundem statum as entitled to enrol for the degree of Master of Science; or
viii. for the Master of Science in Biotechnology only, be admitted by any other of the conditions of Regulation 2(a) or qualify for the award of Bachelor of Engineering, with or without Honours.

(b) Every candidate for the degree shall have been approved as a candidate by the Dean of Science.

Note: Relevance and standard of undergraduate studies will be criteria for approval.

3. Structure of the Degree

The programme for the Degree of Master of Science consists of Part I and Part II:

(a) A candidate admitted under (i) or (ii) of Regulation 2(a) shall offer both Parts.
(b) A candidate admitted under (iii), (iv), (v) or (vi) of Regulation 2(a) in the same subject as for the BSc(Hons) degree, BSLP(Hons), PGDipSc or PGDipEngGeol shall offer part II only.
(c) In the case of a candidate admitted under (vi), or under (iii), (iv), or (v) to a different subject, the Dean of Science shall determine whether the candidate shall offer both Parts I and II, or Part II only, and in such cases may vary the form of the Part I requirements.

4. Concurrent or Sequential Enrolment in Parts I and II

A candidate who offers both Parts I and II may be enrolled in these sequentially or concurrently. Sequential enrolment means Part I is completed before the candidate starts Part II.

Concurrent enrolment means that Parts I and II are taken concurrently with the proviso that the requirements of Part I must be completed within two years if the candidate is a full-time student, or within such time as is determined by the Dean of Postgraduate Studies, under regulation 6, if the candidate is a part-time student.

The total course-weight of the programme in each of the first two years of concurrent enrolment will normally be at least 1.0 EFTS for a full-time student, though this may be reduced to a minimum of 0.95 EFTS if the programme contains some courses from another subject, as permitted under Regulation 7(c).

Candidates who wish to enrol concurrently in Parts I and II must have at least a B+ grade average in the prerequisites listed in Schedule A, and concurrent enrolment also requires the approval of the Head of Department/School.

5. Part-time Enrolment

Enrolment for the Degree of Master of Science shall be either on a full-time or a part-time basis. A part-time candidate is one who, because of employment, health, family or other reasons, is unable to devote his or her full-time to study; part-time enrolment requires the approval of the Dean of Science.

6. Duration of the Degree

For a full-time candidate the duration of study and other limits are as listed in Schedule B to these Regulations. A candidate whose application to enrol for this degree on a part-time basis is accepted shall be required to follow a programme of study with time limits determined by the Dean of Science following recommendations by the Head of Department/School.

Note: The time limits for a candidate studying part-time shall normally be twice those for the equivalent full-time course.

7. Requirements for Part I

(a) A candidate offering Part I shall have met the prerequisites in Schedule A to these Regulations, or their equivalents.
i. The requirements for Part I shall be as listed in Schedule B and as laid down in the Prescriptions for the subject. A candidate who

fails any of the courses offered for Part I shall not be permitted to repeat those courses, or to offer any other course(s) in their place (but refer to regulation 7b).

ii. If a candidate has failed no more than 0.25 EFTS of the Part I programme, the Dean of Science, on the advice of the Head of Department/School concerned, may recommend a pass in Part I as a whole. With the recommendation of the Head of the Department/School, and the permission of the Dean of Science, such a candidate may offer Part II for examination if he or she has a grade average (including any failed courses) of at least B- (some departments require a higher grade average). If a candidate qualifies for a pass in Part I but is not permitted to offer Part II for examination, or if such a candidate chooses not to offer Part II for examination, he or she may apply for the award of the Postgraduate Diploma in Science.

iii. A candidate who fails more than 0.25 EFTS of the Part I programme shall not be awarded a pass in Part I as a whole and shall not be permitted to offer Part II for examination, but he or she will be awarded a Certificate of Proficiency for each course passed.

iv. A candidate who passes all the courses for Part 1, but who does not attain a grade average of at least C+ (some departments/school require a higher grade average), or who otherwise does not attain a standard satisfactory to the Dean of Science in the Part I requirements as a whole, shall not be permitted to repeat any part of the Part I programme, or to offer Part II for examination, but may apply for the award of the Postgraduate Diploma in Science.

v. Notwithstanding anything else in Regulation 7(a), before offering Part II for examination, a candidate must pass Part I to the standard required by the Head of Department/School, which standard may be specified in Schedule A to these regulations.

(b) Notwithstanding Regulation 7(a), a candidate offering Part I who qualifies for consideration for an aegrotat award in some or all of the courses (see General Course and Examination Regulation H) may elect either (i) to accept for the courses affected the aegrotat grades recommended by the examiners under that Regulation; or (ii) to sit a further examination and/or present again all or some of the assessed work if that examination or assessed work formed the basis of the aegrotat application. The time or times for representation of work or further examination will be set by the Dean of Science, after consulting the Head of Department/School.

(c) The total course-weight of the Part I programme, if all courses are offered in one subject only, will be at least 1.0 EFTS. A candidate may, with the approval of the Heads of Department/School concerned, replace up to 0.5 EFTS of the Part I programme prescribed for the subject offered by courses prescribed for another subject at an equivalent level for an honours degree or a master's degree, and in such a situation the total course-weight of the Part I programme must be at least 0.95 EFTS.

8. Thesis Requirement

Except as provided in Regulation 9, Part II shall consist of the preparation of a thesis embodying the results of an investigation in some branch of one of the subjects listed in Schedule A to these regulations.

9. MSc in Applied Psychology

A candidate in Applied Psychology shall, instead of presenting a thesis, satisfy the Part II requirement by passing in one year a course as specified in Schedule A to the MSc Regulations, and presenting a dissertation by a prescribed date.

10. Time Limits for Presentation of Theses

Where a thesis is required, the maximum time limits for its presentation are specified in Schedule B to these regulations. The maximum time limit for a part-time candidate will be determined by the Dean of Science, as noted in Regulation 6. The minimum time limit is that required by the candidate to complete the equivalent of 1.0 EFTS (typically this would be close to one year full-time study).

11. Extension of Time for Presentation of Theses

In special circumstances the Dean of Science may approve an extension of the time specified in Schedule B to these regulations.

12. Supervision of Theses

(a) Where a thesis is required, the requirements of the General Course and Examination Regulations, Part L, shall be met.

(b) A candidate shall, before commencing the research to be described in the thesis, secure the approval of the Head of the Department/School concerned for the topic chosen and for the proposed research programme.

(c) Supervisors shall be appointed in accordance with the General Course and Examination Regulations, Part L.
(d) The candidate shall work under the direction of the supervisors and shall meet with and report to the senior supervisor as has been determined under the agreement signed on registration of the research proposal. Except for field work in New Zealand under the direction of the senior supervisor, the candidate shall normally work on the University campus, and laboratory work shall normally be carried out within the University institution. A Head of Department/School may give approval for work to be carried out at another institution in New Zealand for a period not exceeding one month, but permission of the Dean of Postgraduate Studies is required if the period exceeds one month, or if any of the work, including field work, is to be carried out overseas.

13. Examination of Theses

(a) When a thesis is examined, there shall be two examiners, as specified in the General Course and Examination Regulations, Part L.
(b) A candidate shall not present a thesis any part of which has previously been accepted for any degree.
(c) The examiners may require the candidate to undergo an oral examination on the subject of the thesis or on related subjects.
(d) If the thesis at its first presentation is unsatisfactory, the Dean of Science may, on the recommendation of the examiners, permit the candidate to revise the thesis and re-submit it by a specified date.
(e) If the examiners' final recommendation is that the thesis be awarded a failing grade, the degree of Master of Science shall not be awarded.

Note: The weighting ratios of Parts I and II, as specified in Schedule B to these regulations, do not apply if a thesis offered for Part II is unsatisfactory at its final presentation. If the candidate's thesis has been awarded a failing grade, and if that candidate has successfully completed Part I, he or she may apply for the award of the Postgraduate Diploma in Science or the Postgraduate Diploma in Engineering Geology, whichever is appropriate.

14. MSc with Distinction or Merit

Where the candidate has offered Part II only, by thesis, and in the opinion of the examiners the thesis shows special merit, they shall recommend that the degree be awarded with Distinction or Merit, provided that the thesis is presented within the time limits specified in Schedule B to these Regulations or that for a part-time candidate the thesis is presented within the time limits determined by the Dean of Science under Regulation 6.

Note: The award of Distinction is equivalent to First Class Honours; the award of Merit is equivalent to Second Class Honours Division 1.

15. Award of Honours

Where the candidate has offered both Parts, the degree may be awarded with Honours.
(a) There shall be two classes of Honours: First Class Honours and Second Class Honours. Second Class Honours shall be awarded in two divisions: Division 1 and Division 2.
(b) The weighting of the two Parts in the assessment (including the determination of Honours) is given in Schedule B to these Regulations.
(c) The requirements of Parts I and II shall normally be completed by a full-time candidate within the time limits specified in Schedule B to these Regulations. The time limits for a part-time candidate shall be determined by the Dean of Postgraduate Studies under Regulation 6.
(d) A full-time candidate for the degree in any subject shall be eligible for the award of Honours only if all the requirements for the degree are completed within three years of the date of enrolment as a candidate for Part I of the degree in that subject. The eligibility for Honours of a part-time candidate shall be determined in each case by the Dean of Science.
(e) In special circumstances the Dean of Science may, on recommendation of the Head of Department/School, extend the period of eligibility for the award of Honours beyond the time limits specified in 15(c), and/or 15(d).

Note: For the purposes of Regulation 15(d) the date of enrolment is 1 March or 1 August of the year in which the candidate first enrols for the degree, depending on whether the candidate started Part I in the first or second semester, respectively.

16. Award of MSc instead of PhD

Where a thesis has been presented for the Degree of Doctor of Philosophy on a subject listed in Schedule A to these regulations, and the examiners are of the opinion that it does not justify the award of that degree, they may recommend the award of the Degree of Master of Science, without Honours or Distinction or Merit.

17. Transfer from MSc to PhD

With the approval of the Dean of Postgraduate Studies, and on the recommendation of the Head of Department/School, a student who has been enrolled for MSc Part II for a period of at least 6 months full-time, or the equivalent part-time period, and who has completed MSc Part I or is offering only Part II, may apply.

Candidates wishing to do this should refer to PhD Regulation 3(f). A candidate who transfers to PhD, and who completed Part I, may apply for the award of the PGDipSc or PGDipEngGeol, whichever is appropriate.

18. Transfer from MSc to PGDipSc

A candidate who is enrolled for MSc Part I may at any time apply to the Dean of Science for transfer to the PGDipSc.

19. Award of PGDipSc or PGDipEngGeol Instead of Credit Towards MSc

A candidate who has successfully completed Part I of the Degree of Master of Science, or who under Regulation 7(a) has passed Part I as a whole, may have this part of the programme credited towards a PGDipSc instead of the Degree of Master of Science.

Schedule A to the Regulations for the Degree of Master of Science

For full course information, go to www.canterbury.ac.nz/courses

** Subject to Universities New Zealand CUAP approval, due December 2016.*

Antarctic Studies*

The Antarctic Studies programme is MSc Part II only and consists of a thesis totalling 120 points.

Applied Psychology*

Part I consists of courses totalling 120 points (1.00 EFTS) selected from APSY 601-619 and PSYC 451, 460, 464, 473, and must include PSYC 460. With the approval of the Head of Department, one or more PSYC 400 level courses may be substituted. *Note: Not all courses may be offered in any one year.*

Part II consists of APSY 660 Dissertation (90 points) and a further 30 points selected from the same set of courses offered in Part 1.

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(1) PSYC 105 and PSYC 106; and
(2) PSYC 206, and three courses from PSYC 207–212, and
(3) At least 75 points of 300-level PSYC, including PSYC 344.

A B grade average in three PSYC 300-level courses is normally required. See the Limitation of Entry regulations.

Astronomy

Part I: ASTR 480, PHYS 407, ASTR 422, ASTR 423 or ASTR 425, and three other courses from ASTR 421–427, PHYS 411-460, MDPH 403, MDPH 406, with a maximum of two courses from PHYS 440-460.

Notes: Not all courses may be available in any one year. With the approval of the Head of Department, up to two courses may be replaced by appropriate courses from another subject. The choice of courses is subject to the approval of the Head of Department of Physics and Astronomy.

Part II: A thesis (ASTR 690) which shall normally be presented not later than 12 months after the date of enrolment for Part II.

P: 90 points at 300-level approved by the Head of Department.

Note: Students will normally be expected to have taken PHYS 311, PHYS 312 or PHYS 313, and PHYS 326.

Biochemistry*

Part I: Courses totalling at least 120 points as approved by the Director of Biochemistry. Normally courses are selected from BCHM 455 (BIOL 455), BCHM 456 (BIOL 456), BCHM 457 (BIOL 457), BCHM 459 (BIOL 459), BCHM 460 (BIOL 460), BCHM 461 (BIOL 461), BCHM 462 (BIOL 462), BCHM 420, and CHEM 421-422. Other suitable courses include: BCHM 407-409, BIOL 429-462, BIOL 481, BIOL 496.

Part II: A thesis (BCHM 690) on a research project selected with the approval of the Director of Biochemistry.

In determining the class of honours, Part I and Part II are weighted in the ratio 2:3.

P: 90 points in 300-level courses: 70 points from BCHM 301 (BIOL 331), BCHM 302 (CHEM 325) and BCHM 381; and additional points normally from CHEM 321, CHEM 322, CHEM 324, CHEM 362, CHEM 381, BIOL 313, BIOL 330, BIOL 351 or BIOL 352.

Biological Sciences*

Part I: Courses totalling at least 120 points including BIOL 411 and BIOL 412. At least 60 points are to be selected from other BIOL 400-level courses. The remaining courses may be selected with the

approval of the School of Biological Sciences Fourth Year Coordinator.

Part II: A thesis (BIOL 690) which shall normally be presented no later than 12 months after the date of enrolment for Part II. Students must consult the MSc regulations for details of other requirements for this degree. In determining the class of honours, Part I and Part II are weighted in the ratio 2:3

P.

(1) 60 points from 300-level BIOL courses; and
(2) BIOL 309 or GEOG 309 or PSYC 206 or STAT 201 or STAT 202.

Biotechnology*

Part 1: Courses totalling at least 120 points including BIOL 411, BIOL 412 and BIOL 496. At least 15 points are to be selected from BIOL 429, BIOL 455-456, and BIOL 459–461. The remaining courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

Part II: A thesis (BIOT 690). Students must consult the MSc regulations for details of other requirements for this degree. In determining the class of honours, Part I and Part II are weighted in the ratio 2:3.

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(1) BIOL 252 or BIOL 254; and
(2) BIOL 352; and
(3) At least 30 points selected from BIOL 313, BIOL 330, BIOL 331, BIOL 333, BIOL 335.

Note: Students will normally be expected to take BIOL 309.

Cellular and Molecular Biology*

Part I: Courses totalling at least 120 points including BIOL 411 and BIOL 412. At least 30 points are to be selected from BIOL 455-456 (BCHM 455–456), BIOL 459-462 (BCHM 459–462) and BIOL 496. The remaining courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

Part II: A thesis (CEMB 690). Students must consult the MSc regulations for details of other requirements for this degree. In determining the class of honours, Part I and Part II are weighted in the ratio 2:3.

P: At least 60 points selected from BCHM 301, BIOL 313, BIOL 330, BIOL 331, BIOL 333, BIOL 334, BIOL 335, BIOL 351, BIOL 352.

Note: Students will normally be expected to take BIOL 309.

Chemistry

Part I: All four courses CHEM 421-424 subject to the following qualifications:

Candidates credited with fewer than 70 points in 300-level Chemistry courses will be required to achieve concurrently a satisfactory standard in a further 15 points at 300-level as approved by the Head of Department.

Practical work is required in the Part I year and each candidate must submit a project report to the Head of Department not later than the date specified in the course information sheet issued upon enrolment.

The requirement for Part II is a thesis (CHEM 690) which, to be considered for honours or for Distinction, must be submitted not later than 12 months after the date of enrolment for Part II.

In determining the class of honours, Part I and Part II are weighted in the ratio 2:3.

P.

(1) CHEM 211, either CHEM 212 or BCHM 212, and 45 points from CHEM 241-243, BCHM 206; or 60 points from CHEM 211-223 and CHEM 271–273, BCHM 205 and BCHM 206; and
(2) 30 points from CHEM 281–282, BCHM 281, and CHEM 381–382; and
(3) at least 60 points from CHEM 321–373; and
(4) at least one of CHEM 381 and CHEM 382.

Child and Family Psychology

Part I: 1.25 EFTS (150 points) which shall normally consist of six courses comprising CFPY 601–604, HLTH 472 and an approved 15-point postgraduate Research Methods course (0.125 EFTS), or equivalent, as approved by the Head of the School of Health Sciences.

Part II: 1.00 EFTS (120 points) consisting of a thesis (CFPY 695). In determining the class of Honours Part I and Part II are weighted in the ratio 1:1. The subject area of the thesis shall be approved prior to registration of the thesis by either:

(a) the Head of the School of Health Sciences (in the case of students concurrently enrolled in the Postgraduate Diploma in Child and Family Psychology) or
(b) the Head of the Department/School/Centre in which the proposed senior supervisor is located (in consultation with the Director, Health Sciences Centre and any other HOD/S involved in supervision).

P: Part I
(1) A Bachelor's degree with a major in Psychology; or
(2) Any relevant Bachelor's degree and a Graduate Diploma of Science in Psychology; and
(3) PSYC 206 Research Design and Statistics or other research methods paper deemed equivalent.

Students will normally be expected to have at least a B average in their 300-level undergraduate courses.

Part II: Completion of Part I

Computational and Applied Mathematical Sciences

Part I: Eight approved courses chosen from MATH 401–490 and STAT 401–490 (other than MATH 449 or STAT 449). With the approval of the Programme Coordinator, candidates may substitute one or two courses from other subjects in an applications area.

Part II: A thesis (CAMS 690).

The weighting of Parts I and II will be in the ratio 1:2.

P: Met the majoring requirements for entry into a BSc(Hons) in Mathematics, or Statistics, or, with HOS approval, the equivalent.

Computer Science*

Part I consists of COSC 469 and seven further courses chosen from COSC 401–439, 462–474, and all SENG 400-level courses with the exception of SENG 402.

For Part II, a thesis (COSC 690) is required, and students must consult the MSc Regulations for details of this and other requirements for the degree.

The weighting of the two Parts in the assessment (including the determination of honours) shall be 1:2 for Part I to Part II.

P: 60 points at 300-level in Computer Science (including SENG 301, SENG 302, SENG 365, ENCE 360, ENCE 361).

Disaster, Risk and Resilience

The Disaster, Risk and Resilience programme is MSc Part II only and consists of a thesis totalling 120 points.

Ecology*

Part I: Courses totalling at least 120 points including BIOL 411 and BIOL 412. Additional courses are to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 420, BIOL 423-429, BIOL 438, ENVR 410, ENVR 411, and FORE 616.

Part II: A thesis (ECOL 690). Students must consult the MSc regulations for details of other requirements for this degree. In determining the class of honours, Part I and Part II are weighted in the ratio 2:3.

P:
(1) 60 points from BIOL 370-379; and
(2) BIOL 309 or equivalent.

Economics

Part I: Eight courses or their equivalent from ECON 601-679. Some Semester 2 courses may have a Semester 1 course as a prerequisite. All full time candidates shall normally take four courses or their equivalent in each semester.

Part II: A thesis (ECON 699).

P:
(1) ECON 206 or ECON 325; and
(2) ECON 213 or STAT 202 or STAT 213; and
(3) ECON 203 or (ECON 207 and ECON 208); and
(4) 60 points from 300-level Economics courses, including ECON 321, ECON 324, ECON 326 (or equivalent as approved by the Head of Department).

Alternatively, a student may apply to enter with a Graduate Diploma in Economics or a Graduate Diploma in Science, normally including ECON 321, ECON 324 and ECON 326. Normally a grade average of B or better is required in ECON 300-level prerequisite courses.

Engineering Geology

The programme of study consists of MSc Part II only consisting of a thesis totalling 1.0 EFTS.

Environmental Science

It is desirable that an appropriate course of data analysis and computing should have been included in the undergraduate degree.

The course of study for Part I is ENVR 410 (Concepts and Principles in Environmental Science), ENVR 411 (Case Studies in Environmental Science), and courses totalling not less than 0.75 course weighting selected from relevant courses offered by the Environmental Science home departments/schools of Forestry (FORE), Geography (GEOG), Geological Sciences (GEOL and ENGE), and Biological Sciences (BIOL), and from relevant courses, as approved by the Coordinator, that are offered by Antarctic Studies (ANTA), Chemistry (CHEM), Chemical and Process Engineering (ENCH), Civil Engineering (ENCI) and Mathematics and Statistics (MATH and STAT). The selection should form a coherent thematic programme, and must be discussed with the Coordinator.

Note that normally all individual course prerequisites must be satisfied.

The requirement for Part II is a thesis (ENVR 690).

In determining the class of honours, Part I and Part II are weighted in the ratio of 2:3.

P: 90 points in appropriate 300-level courses in Science, Engineering and Forestry approved by the Coordinator. A minimum B grade in relevant 300-level courses is normally required.

Evolutionary Biology+

+ Not open to new enrolments in 2017.

Part I: Courses totalling at least 120 points including BIOL 411 and BIOL 412. At least 30 points are to be selected from BIOL 423, BIOL 429, BIOL 438, BIOL 456 (BCHM 456), BIOL 459 (BCHM 459) and BIOL 460 (BCHM 460). Additional courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

Part II: A thesis (EVOL 690). Students must consult the MSc regulations for details of other requirements for this degree. In determining the class of honours, Part I and Part II are weighted in the ratio 2:3.

P.

(1) BIOL 271; and
(2) 60 points selected from BIOL 330, BIOL 332, BIOL 334, BIOL 335, BIOL 371, BIOL 373; and
(3) BIOL 309 or equivalent background in statistics.

Finance

Part I: A minimum of 120 points (1.00 EFTS) from FINC 601-680. Enrolment in any combination of courses is subject to the approval of the Head of Department. Candidates can normally attempt each course on offer only once.

Part II: A thesis (FINC 699)

The weighting of Parts I and II in the assessment is 1:1.

P. Either: a BSc or BCom with major in Finance, including:
(1) ECON 202; and
(2) ECON 213 (or any 30 points from STAT 200-level courses); and
(3) FINC 205; and
(4) FINC 331.
Students require at least a B+ average in 300-level FINC courses.

Or: a bachelors degree in a subject other than Finance, but including:
(1) ECON 213 (or any 30 points from STAT 200-level courses); and
(2) FINC 331; and
(3) an additional 30 points in 300-level FINC courses.
Students require at least an A- average in 300-level FINC courses.

Geography

Part I: Courses equivalent to 1.0 EFTS or 120 points from GEOG 401-420 and GISC 403-413 and GISC 416, with the approval of the Head of Department. Enrolment in GEOG 420 Research Project is recommended. *Note: Not all courses will be offered in any one year.*

Part II: Thesis (GEOG 695).

In determining the class of Honours Part I and Part II are weighted in the ratio 1:1.

P: Students will normally be expected to:
(1) either have passed 90 points in 300-level courses approved by the Head of Department (including GEOG 309 and at least 28-30 other points in 300-level Geography courses); or
(2) to have completed 120 points at 300-level of which 56-60 points are in Geography and 56-60 points are in subjects approved by the Head of Department.

Geology

The course of study for Part I is eight courses chosen from GEOL 473-489 with the approval of the Head of the Department of Geological Sciences. Part II is a thesis (GEOL 690).

In determining the class of Honours, Part I and II are weighted in the ratio of 1:2.

In order to proceed to Part II, the Head of Department normally requires the student to have attained a B+ grade average in Part I. Students who fail to meet this requirement, and who are declined entry to Part II by the Head of Department, may apply to have the courses credited towards the Postgraduate Diploma in Science.

Notes:

1. *With the approval of the Head of the Department of Geological Sciences, up to three courses from another relevant subject may replace three of the courses, or one full year course from another relevant subject may replace two of the courses.*
2. *Practical and fieldwork may be required as part of any GEOL 473-489 courses.*
3. *Not all courses may be offered in any one year.*

P: GEOL 351 and GEOL 352 (or equivalent fieldwork), and an additional 60 points from other GEOL

300-level courses, these prerequisite courses to have been passed with a grade average that meets the approval of the Head of Department (the normal requirement is at least a B grade average).

Hazard and Disaster Management+

+ Not open to new enrolments. Please refer to Disaster, Risk and Resilience.

The Hazard and Disaster Management programme is MSc Part II only and consists of a thesis totalling 1.0 EFTS (120 points).

Mathematics

Part I: Eight courses chosen from MATH 401-490 and STAT 401-490 (other than MATH 449 or STAT 449). Normally one of the eight courses must be MATH 443 if the student has not been credited with MATH 343 previously. Normally at least six courses will be chosen from the MATH course list.

Part II: A thesis (MATH 690).

The weighting of Parts I and II shall be in the ratio 1:2.

P: Part I:
(1) 45 points from MATH 201, MATH 202, MATH 203, MATH 220 and MATH 240, including MATH 201 and at least one of (MATH 202 or MATH 203); and
(2) 60 points from MATH 301-394; and
(3) An additional 30 points from MATH 301-394 and STAT 301-394 or other approved courses.

Medical Physics

Part I: Seven courses from MDPH 401-410 and one course from PHYS 410-460. With the approval of the Head of Department, one course may be replaced by an appropriate course from another subject. Note: the choice of courses is subject to the approval of the Head of Department of Physics and Astronomy.

Part II: A thesis (MDPH 690) which shall normally be presented no later than 12 months after the date of enrolment for Part II.

P: 90 points at 300-level, approved by the Head of Department.

Medical Physics (Clinical)

Only students accepted as Medical Physics Registrars by the Australasian College of Physical Scientists and Engineers in Medicine are eligible for this programme.

Part I: Seven courses from MDPH 401-410 and one course from PHYS 410-460; one course may be replaced by an appropriate course from another subject. Note: the choice of courses is subject to the approval of the Head of Department of Physics and Astronomy.

Part II: A thesis (MDPH 690) which shall normally be presented no later than 12 months (full-time enrolment) or 24 months (part-time enrolment) after the date of enrolment for Part II.

P: 90 points at 300-level, approved by the Head of Department.

Microbiology*

Part I: Courses totalling at least 120 points including BIOL 411, BIOL 412, BIOL 455 (BCHM 455) and BIOL 456 (BCHM 456). At least 30 points are to be selected from BIOL 457 (BCHM 457), BIOL 459 (BCHM 459), BIOL 460 (BCHM 460), BIOL 463 and BIOL 496. Additional courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

Part II: A thesis (MBIO 690). Students must consult the MSc regulations for details of other requirements for this degree. In determining the class of honours, Part I and Part II are weighted in the ratio 2:3.

P.
(1) BIOL 313; and
(2) At least 45 points selected from BCHM 301, BIOL 330, BIOL 331, BIOL 333, BIOL 335, BIOL 351, BIOL 352.

Note: Students will normally be expected to take BIOL 309.

Philosophy*

Part I: 120 points chosen from PHIL 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 463, 464, 467, 468, 469, 470, 471, 472, 474, 475, 495, 498 (as for Philosophy BA(Hons)).

Part II: a thesis (PHIL 695).

In determining the class of honours, Part I and II are weighted in the ratio 1:1.

P: 60 points in Philosophy at 300-level.

Physics

Part I: PHYS 407, PHYS 480 and five courses chosen from PHYS 411–460, ASTR 421-425, MDPH 403, MDPH 406. A maximum of two courses from PHYS 440–460. Not all courses may be available in any one year. With the approval of the Head of Department, up to two courses may be replaced by appropriate courses from another subject. *Note: the choice of courses is subject to the approval of the Head of Department of Physics and Astronomy.*

Part II: A thesis (PHYS 690) which shall normally be presented not later than 12 months after the date of enrolment for Part II.

Students should consult the MSc Regulations for further requirements.

P: 90 points at 300-level approved by the Head of Department. *Note: Students will normally be expected to have taken PHYS 311, PHYS 312 or PHYS 313 and PHYS 326.*

Plant Biology+

+ Not open to new enrolments in 2017.

Part I: Courses totalling at least 120 points including BIOL 411 and BIOL 412. Remaining courses are to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 423–429, BIOL 455, BIOL 459–461, BIOL 463 and BIOL 496.

Part II: A thesis (PBIO 690). Students must consult the MSc regulations for details of other requirements for this degree. In determining the class of honours, Part I and Part II are weighted in the ratio 2:3.

P: At least 60 points from 300-level BIOL courses
Note: Students will normally be expected to take BIOL 309.

Psychology*

Part I: Courses totalling 120 points (1 EFTS) from any 400-level courses in Psychology, including PSYC 460.

Part II:

(a) PSYC 695 Psychology MSc Thesis
(b) For students who have not already been credited with PSYC 460 or PSYC 464, PSYC 601 Research Methods in Psychology OR PSYC602 Multivariate Statistics & Methods in Psychology must be completed.

P.

(1) PSYC 105 and PSYC 106; and
(2) PSYC 206, and three courses from PSYC 207–212; and
(3) At least 75 points of 300-level PSYC, including PSYC 344.

A B grade average in three PSYC 300-level courses is normally required.

Speech and Language Sciences

The Speech and Language Sciences programme consists of MSc Part II only consisting of one course and a thesis totalling 1.00 EFTS (120 points), normally completed in one year.

Part II:

(a) CMDS 605 Advanced Clinical Practicum, Supervision, and Administration (0.125 EFTS) or CMDS 604 Research Design (0.09 EFTS)
(b) CMDS 695 MSc Thesis (Clinical) (0.875 EFTS) or CMDS 696 MSc Thesis (Non-clinical) (0.91 EFTS)

P:

(1) CMDS 605 and CMDS 695: Four-year Bachelor of Speech and Language Therapy degree or a Bachelor of Speech and Language Pathology with Honours degree.
(2) CMDS 696: Four-year Bachelor of Speech and Language Therapy degree or an approved undergraduate honours degree qualification in a related discipline.

Note: A B average or above is normally required.

Statistics

Part I: Eight courses chosen from STAT 401-490 and MATH 401-490 (other than STAT 449 or MATH 449). Normally one of the eight courses must be STAT 464 if the student has not been credited with STAT 213 or STAT 214 previously. Normally at least six courses will be chosen from the STAT course list.

Part II: A thesis (STAT 690)

The weighting of Parts I and II shall be in the ratio of 1:2.

P: Part I:

(1) MATH 103, MATH 109 or MATH 199; and
(2) 45 points from STAT 201-294; and
(3) 60 points from STAT 301-394; and
(4) An additional 30 points from STAT 301-394 and MATH 301-394 or other approved courses.

Zoology+

+ Not open to new enrolments in 2017.

Part I: Courses totalling at least 120 points including BIOL 411 and BIOL 412. Additional courses are to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 424-429, BIOL 459-463 and BIOL 481.

Part II: A thesis (ZOOL 690). Students must consult the MSc regulations for details of other requirements for this degree. In determining the class of honours, Part I and Part II are weighted in the ratio 2:3.

P: At least 60 points from 300-level BIOL courses
Note: students will normally be expected to take BIOL 309.

Schedule B to the Regulations for the Degree of Master of Science

For full course information, go to www.canterbury.ac.nz/courses

MSc Part II Time Limits and Weighting

The following time limits and weightings apply to all students who enrol in MSc Part II Thesis from 1 November 2013.

	Duration in full-time study	Duration in part-time study	EFTS	Points
Master's Thesis	12 months	24 months	1.00	120
Master's Dissertation*	12 months	24 months	0.75	90

** Applied Psychology only: dissertation completed concurrent to other course enrolment. See Schedule A.*

Notes:

1. *Theses and dissertations must be completed within the timeframes stated above in order to be eligible for Honours, Distinction or Merit (See MSc Regulations 14 and 15).*
2. *In exceptional circumstances, the Head of Department/School/Programme, acting upon the recommendation of the Senior Supervisor, may grant short extensions of up to 4 months.*
3. *The Dean, acting upon the recommendation of the Head of Department, may grant additional extensions where further exceptional circumstances warrant.*
4. *Theses submitted after extension(s) are not eligible for Honours, Distinction or Merit.*
5. *All extensions incur additional student enrolment fees for the period of the extension.*
6. *Candidates will commence their MSc Part II enrolment on the first day of Semester 1 or Semester 2, or another date by agreement of the Head of Department/School/Programme.*
7. *Thesis submission deadline will be 12 months after the date of enrolment.*
8. *Where the candidate has offered MSc as Part I and Part II, the weighting of Part II in the overall MSc degree grade is 60%.*

The Degree of Master of Speech and Language Pathology (MSLP)

See also General Course and Examination Regulations.

The Master of Speech and Language Pathology degree is intended to produce graduates ready for entry-level clinical practice as a speech-language therapist/pathologist. The degree is conducted over 80 weeks of full-time study (or its equivalent part-time) distributed over two extended academic years.

Every candidate for the Degree of Master of Speech and Language Pathology shall follow a course of study approved by the Dean of Science as laid down in these Regulations consisting of not fewer than 240 points (2 EFTS) and not more than 270 points.

1. Qualifications Required to Enrol in the Degree

Every candidate for the degree of Master of Speech and Language Pathology shall have:

(a) either;
   i. qualified for the award of any Bachelor's or Master's degree (other than a degree specialising in speech and language therapy/pathology), with an overall graduating average of B or higher; or
   ii. been admitted ad eundem statum as entitled to proceed to the degree of Master of Speech and Language Pathology; and
   iii. satisfied the Head of Department that the prior degree or other equivalent qualification is indicative of the ability to undertake the Master of Speech and Language Pathology; and

(b) passed one course in each of the three following disciplines at 100-level (NQF Level 5) or above: Linguistics, Statistics, and Biology/Anatomy and Physiology. If one or two of these disciplines has/have not been studied previously, applicants must take one required course in that/those discipline(s) either immediately prior to entry to

the Master of Speech and Language Pathology or during the first year of the degree; and

(c) been approved as a candidate for the degree by the Dean of Science.

2. Admission to the Degree

Entry into Part I of the Master of Speech and Language Pathology is limited to a maximum of 20 students annually. Candidates must submit an enrolment application and a separate application form to the Head of the Department of Communication Disorders by 1st October. Late applications will be considered subject to availability of places in the programme. Selection is based on academic merit, a statement of interest and an interview with Departmental Representatives.

3. Structure of the Degree

To qualify for the Degree of Master of Speech and Language Pathology:

(a) a candidate must pass courses having a total value of 240 points from Parts I and II as listed in the Master of Speech and Language Pathology Schedule.

(b) a candidate must pass all component assessments of each academic course at the first enrolment, with the exception of that specified in 4(a) and 4(b) below.

(c) a candidate may not enrol for Part II until Part I has been completed, unless special approval is given by the Dean of Science, upon the recommendation of the Head of the Department of Communication Disorders.

(d) Where a student is required to take additional courses as a condition of enrolment for Part I, those courses are to be passed within 12 months of initial enrolment for this degree if not taken prior to entry to Part I.

(e) a candidate must normally attain a B average in Part 1 to progress to Part 2.

4. Repeating of Course Component Assessments

(a) If a candidate fails any of the component assessments of the courses listed in the Master of Speech and Language Pathology Schedule they will be required to re-take the assessment and attain a standard satisfactory to the Head of Department. This option can only be enacted once per course, and for a maximum of two courses in each of Part I and Part II.

(b) If a candidate fails the clinical competency assessment of CMDS 664, CMDS 668, CMDS 671, or CMDS 676, he/she shall not be permitted to repeat that assessment and will instead be required to repeat the course. This action can only be enacted once per course.

5. Full-time and Part-time Enrolment

(a) A candidate shall normally enrol for full-time study across two years. There is no provision for accelerated learning.

(b) A candidate may enrol for part-time study, at the discretion of the Dean of Science, for health, family, employment or other circumstances, in which case the candidate must complete the degree in four calendar years.

6. MSLP with Distinction

A candidate may earn the award of MSLP (Distinction) for a GPA of 7 to 9 (A- to A+) or a MSLP (Merit) for a GPA of 6 (B+).

Schedule to the Regulations for the Degree of Master of Speech and Language Pathology

For full course information, go to www.canterbury.ac.nz/courses

The following information outlines the core requirements. For in-depth course information please refer to the Course Catalogue section of the Calendar or on the University of Canterbury website.

Part I

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
CMDS 661	Clinical Linguistics and Language Acquisition	15	S1	P: Entry subject to approval by the Head of Department R: CMDS 221, CMDS 231
CMDS 662	Fluency Disorders	15	S1	P: Entry subject to approval by the Head of Department R: (1) CMDS 351, (2) CMDS 451
CMDS 663	Audiologic Assessment and Management	15	S1	P: Entry subject to approval by the Head of Department R: CMDS 243, CMDS 242, CMDS 442

CMDS 664	Professional Studies and Clinical Practice I	15	S1	P: Entry subject to approval by the Head of Department R: CMDS 281, CMDS 368
CMDS 665	Speech and Language Disorders in Children	15	S2	P: CMDS 661. Entry subject to approval by the Head of Department R: CMDS 222, CMDS 232
CMDS 666	Voice Disorders	15	S2	P: Entry subject to approval by the Head of Department R: CMDS 367
CMDS 667	Neuroscience of Communication and Swallowing	15	S2	P: Entry subject to approval by the Head of Department R: (1) CMDS 162, (2) CMDS 262
CMDS 668	Evidence-Based Clinical Practice 2	15	X	P: (1) STAT 101 or equivalent (2) CMDS 664. Entry subject to approval by the Head of Department R: CMDS 282, CMDS 263 and CMDS 462

Part II

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
CMDS 669	Dysphagia and Related Disorders - Diagnosis	15	S1	P: CMDS 667. Entry subject to approval by the Head of Department R: CMDS 365
CMDS 670	Aphasia and Related Disorders	15	S1	P: CMDS 667. Entry subject to approval by the Head of Department R: CMDS 369
CMDS 671	Applied Research and Clinical Practice 3	15	S1	P: (1) CMDS 664 , (2) CMDS 668. Entry subject to approval by the Head of Department R: CMDS 381
CMDS 672	Spoken and Written Language Disorders in Educational Settings	15	S1	P: CMDS 665. Entry subject to approval by the Head of Department R: (1) CMDS 420, (2) CMDS 320
CMDS 673	Motor Speech Disorders	15	S2	P: CMDS 667. Entry subject to approval by the Head of Department R: CMDS 363
CMDS 674	Dysphagia and Related Disorders: Management	15	S2	P: CMDS 669. Entry subject to approval by the Head of Department R: (1) CMDS 465, (2) CMDS 366
CMDS 675	Complex Communication Disorders	15	S2	P: Entry subject to approval by the Head of Department R: CMDS 461
CMDS 676	Professional Studies and Clinical Practice 4	15	X	P: (1) CMDS 664, (2) CMDS 668, (3) CMDS 671. Entry subject to approval by the Head of Department R: (1) CMDS 468, (2) CMDS 484

The Degree of Master of Urban Resilience and Renewal (MURR)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

Every candidate for the degree of Master of Urban Resilience and Renewal, before applying to enrol in the degree, shall have:

(a) qualified for a university degree which is relevant to urban resilience and renewal (eg, geography, environmental science/studies, planning, sociology or any other relevant degree subject to approval of the Programme Director and/or Dean of Science); and

(b) normally at least 90 points/ 0.75 EFTS in relevant 300-level courses from the schedule passed with a grade average that meets the approval of the Programme Director (the normal requirement is at least a B grade average); and

(c) been approved as a candidate for the degree by the Dean of Science.

2. Admission to the Degree

Students planning to complete a Master of Urban Resilience and Renewal must apply for admission to the degree programme. Applications for admission must be received by the Department of Geography on the prescribed form no later than 30 January in the year of desired entry. It is the responsibility of the student to ensure that an up-to-date official academic record is sent to the Department of Geography as soon as it is available. Students must also Apply to Enrol.

3. Structure of the Degree

To qualify for the Degree of Master of Urban Resilience and Renewal a candidate must complete:

(a) Three required courses as listed in Regulation 6(a);
(b) Approved courses totalling 0.25 EFTS; and
(c) A project (GEOG 692).

4. Full-time and Part-time Enrolment

A candidate may be enrolled for the degree of Master of Urban Resilience and Renewal either on a full-time or part-time basis. A candidate may, because of employment, health, family or other reasons, enrol part-time with the approval of the Dean of Science.

5. Duration of the Programme

A candidate should normally follow a course of study of between 12 and 24 months.

6. Requirements for Courses

(a) The coursework shall comprise:
    i. GEOG 402, GEOG 409 and GEOG 415;
    ii. other courses totalling 0.25 EFTS at 400-level, approved by the Programme Director; and
    iii. a 0.5 EFTS project (GEOG 692).
(b) Candidates must satisfy the Programme Director that they have the necessary prerequisite knowledge to undertake the proposed courses from the schedule.
(c) Students can only fail up to 0.25 EFTS, and must pass the repeated courses within the following year. Enrolment in an alternative course in its place will only be permitted in exceptional circumstances and requires a recommendation from the Programme Director and the permission of the Dean of Science.
(d) A candidate who fails any course and is not successful under Regulation 6(c) will be awarded a Certificate of Proficiency for each course passed.

Note: Practical and fieldwork may be required as part of any course.

7. Award of Degree with Distinction or Merit

The Master of Urban Resilience and Renewal may be awarded with Distinction or Merit.

Note: The award of Distinction indicates a grade point average of 7.0 or greater; the award of Merit indicates a grade point average of 6.0–6.9.

8. Requirements for the Dissertation

(a) The project shall embody the results of an investigation in a subject area approved by the Programme Director.
(b) If the consensus at the final examination is that the project be awarded a failing grade, the degree of Master of Urban Resilience and Renewal shall not be awarded.

The Degree of Master of Water Resource Management (MWaterRM)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

Every candidate for the degree of Master of Water Resource Management, before enrolling for the degree, shall have:

(a) either
    i. qualified for the Postgraduate Diploma in Water Resource Management; or
    ii. qualified for a degree in a New Zealand university which is of relevance to Water Resource Management and the proposed course of study; or
    iii. been admitted ad eundem statum to enrol for the Master of Water Resource Management.
(b) Presented evidence of ability for advanced level academic study by normally having achieved a B average and above.
(c) Been approved as a candidate by the Dean of Science.

2. Award of the Degree with Honours or Distinction or Merit

The degree of Master of Water Resource Management may be awarded with Honours. There shall be two classes of Honours: First Class Honours and Second Class Honours. Second Class Honours shall be awarded in two divisions: Division I and

Division II. The ratio of Part I to Part II shall be 1:1.

A candidate who offers Part II by thesis only may be awarded the degree of Master of Water Resource Management with Distinction or Merit.

Note: The award of Distinction indicates a grade average in the range A+ to A-; the award of Merit indicates a grade average of B+.

3. Structure of the Degree

The programme for the degree of Master of Water Resource Management consists of Part I and Part II, 2.00 EFTS/240 points

(a) A candidate admitted under (ii.) and (iii.) of Regulation 1(a) shall offer both Parts.
(b) A candidate admitted under (i.) of Regulation 1(a) for a Master of Water Resource Management shall offer Part II only.
(c) All students admitted to the Master of Water Resource Management will complete a coherent programme of study approved by the Director of the Waterways Centre.

4. Full-time and Part-time Enrolment

A candidate may be enrolled for the degree of Master of Water Resource Management either on a full-time or part-time basis. A part-time candidate is one who, because of employment, health, family or other reasons, is unable to devote his or her full-time to study. Part-time enrolment requires the approval of the Dean of Science.

5. Duration of the Programme

A candidate shall complete the degree according to the following timeframe:

Part I: Full-time, 1 year; Part-time, 2 years

Part II: Full-time, 1 year; Part-time, 2 years

The minimum timeframe for completion of this Master's degree is 2 years and the maximum part-time 4 years. Any student seeking to complete outside of these timeframes must seek the permission of the Director, Waterways Centre for Freshwater Management, and the Dean of Science

6. Requirements for Part I

(a) The requirements for Part I shall be WATR 401/601, WATR 402/602 and WATR 403/603, and at least 30 points from WATR 404, GEOG 404, ENVR 410, and ENVR 411 at the University of Canterbury, and LWST 602, MAST 603, ERST 621, ERST 630, ERST 632, ERST 633 and ECON 606 at Lincoln University. The remainder of the courses can be selected from appropriate 400-level courses (or 600-level courses at Lincoln University) as approved by the Director of the Waterways Centre for Freshwater Management, and as listed in the University of Canterbury or other University Calendars relevant to a coherent programme of study for each student. The total course weight of the Part I programme will be at least 1.0 EFTS.
(b) Candidates must satisfy the Director of the Waterways Centre for Freshwater Management, that they have the necessary prerequisite knowledge to undertake the proposed courses from the Schedule.
(c) Re-enrolment in Part I to repeat failed courses or offer any other course in its place will only be permitted in exceptional circumstances and requires a recommendation from the Director of the Waterways Centre for Freshwater Management and the permission of the Dean of Science.
(d) A candidate who fails any courses offered for Part I and is not successful under Regulation 6 (d), shall not be awarded a pass in Part I and shall not be permitted to proceed to Part II, but will be awarded a Certificate of Proficiency for each course passed.
(e) A candidate who passes all of the courses for Part I, but who does not attain a B grade average or better shall not be permitted to proceed to Part II (unless special permission has been granted by the Dean of Science), but may apply for the award of the Postgraduate Diploma in Water Resource Management. The candidate may also apply to the Director of the Waterways Centre for Freshwater Management to repeat relevant courses to obtain a B grade average.
(f) A candidate who passes all the courses for Part I and is eligible to proceed to Part II, but who chooses not to do so, may apply for the award of the Postgraduate Diploma in Water Resources.

Note: Course work shall consist of approved courses at 400-level or higher from the University of Canterbury or another New Zealand university, as approved by the Director of the Waterways Centre for Freshwater Management.

7. Requirements for Part II

Part II shall consist of the preparation of a thesis to the value of 1.0 EFTS embodying the results of an investigation in a subject area approved by the Director of the Waterways Centre for Freshwater Management. The requirements of the General Course and Examination Regulations, Section L, shall be met.

Schedule to the Regulations for the Degree of Master of Water Resource Management

Part I

(a) WATR 401 Advanced Water Resources, compulsory (15 points/0.125 EFTS)
(b) WATR 402 Determinants of Water Availability and Quality, compulsory (15 points/0.125 EFTS)
(c) WATR 403 Water Management, Policy and Planning, compulsory (15 points/0.125 EFTS)

Note: At Lincoln University the course codes are WATR 601, WATR 602 and WATR 603 respectively, and the courses are worth 20 points/0.167 EFTS.

Other 400-level courses (or higher) relevant to a coherent programme of study with a total course weighting of at least 1.0 EFTS. This should include a minimum of 0.25 EFTS from the following:

(a) WATR 404 Water Special Topic (0.125 EFTS)
(b) GEOG 404 Resource and Environmental Management (0.25 EFTS)
(c) ENVR 410 Concepts and Principles of Environmental Science (0.125 EFTS)
(d) ENVR 411 Case Studies in Environmental Sciences (0.125 EFTS)
(e) MAST 603 (LU) Mana Kaitiaki (Māori Resource Management) (0.167 EFTS)
(f) ERST 630 (LU) Environmental Policy (0.167 EFTS)
(g) LWST 602 (LU) Advanced Resource Management Law (0.167 EFTS)
(h) ERST 633 (LU) Integrated Environmental Management (0.167 EFTS)
(i) ECON 606 (LU) Natural Resource and Energy Economics (0.167 EFTS)
(j) ERST 621 (LU) Principles of Environmental Impact Assessment (20 points)
(k) ERST 632 (LU) Economics in Environmental Policy (20 points)

A list of additional 400-level courses (or higher), which are highly recommended for students with the suitable prerequisites, will be made available by the Waterways Centre for Freshwater Management. Final course approval will be required from the Director of the Waterways Centre.

Part II

WATR 690 Water Resource Management Masters Thesis (120 points /1.000 EFTS).

The Degree of Professional Master of Engineering Geology (PMEG)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

Every candidate for the Professional Master of Engineering Geology (PMEG), before enrolling in the degree, shall have

(a) either
  i. qualified for the award of the degree of Bachelor of Science majoring in Geology or Earth Sciences; or
  ii. qualified for the award of the degree of Bachelor of Engineering, majoring in Civil, Environmental or Natural Resources Engineering (see Notes below); or
  iii. been admitted ad eundem statum with graduate status with suitable preliminary qualification to the University of Canterbury (see Notes below); or
  iv. recognition of prior learning/ experience as assessed by the Programme Director; and
(b) have been approved as a candidate by the Dean of Science; and
(c) 15 points of MATH 100-level courses and 15 points from STAT 100-level courses *(Note: This requirement may be waived by the Head of Department if the student can demonstrate an existing suitably high level of ability in Mathematics and/or Statistics).*

Notes:

1. *Relevance of undergraduate studies to Engineering Geology and standard of achievement are the main criteria for approval. University of Canterbury students entering under Regulation 1(a)(i) will normally be required to have passed GEOL 351 and GEOL 352, and 60 other points in GEOL 300-level courses with a grade average that meets the approval of the Head of Department (the normal requirement is at least a B-grade average for these courses).*
2. *Candidates seeking admission may be required to pass a qualifying programme prior to commencing the Professional Master of Engineering Geology.*
3. *A relevant tertiary qualification plus work experience may be deemed appropriate to meet the pre-*

requisite training. Candidates may be required to complete preparatory courses prior to entry.

4. *Students with a B+ grade average and fulfilling all prerequisites will be enrolled first with Programme Director approval, up to a total of 30 students across PMEG and MSc Part I. If fewer than 30 students meeting these criteria enrol as of three weeks before the start of the semester, students with a B- to B grade average and fulfilling all prerequisites given in Note 1 will be enrolled with Programme Director approval in the remaining spaces on a merit basis.*

2. Programme of Study

The programme of study, which will ensure students meet the IPENZ competence standards for professional engineering geologists, shall consist of:

(a) eight required courses: ENGE 410, ENGE 411, ENGE 412, ENGE 413, ENGE 414, ENGE 415, ENGE 416, DRRE 402; or
(b) substitution of required 400-level courses if the candidate has a demonstrated redundancy-in-training; and
(c) a dissertation (ENGE 691).

Notes:

1. *The time limit for a candidate studying full-time shall normally be 12 months. The time limit for a candidate studying part-time shall normally be two years, but in exceptional circumstances the time limit may be a maximum of five years, with approval from the Programme Director.*
2. *Practical and field work may be required as part of any ENGE course.*

3. Requirements for the Dissertation (ENGE 691, 0.500 EFTS)

The dissertation shall embody the results of an investigation in a subject area approved by the Programme Director. The requirements of the General Course and Examination Regulations, Part L, shall be met.

The dissertation will normally be completed in four months, not including writing the proposal, or eight months if studying part-time.

If the consensus at the examiners' final examination is that the dissertation be awarded a failing grade, the degree of Professional Master of Engineering Geology shall not be awarded.

4. Repeating of Courses

A candidate who fails any of the courses, or who otherwise does not attain a standard satisfactory to the Dean of Science, shall not be permitted to repeat any of those courses, or offer any other course in their place.

A candidate who fails a course will be awarded a Certificate of Proficiency for each course passed.

5. Award of Professional Master with Distinction or Merit

The Professional Master of Engineering Geology may be awarded with Distinction or Merit.

Note: The award of Distinction indicates a grade point average of 7.0 or greater; the award of Merit indicates a grade point average of 6.0-6.9.

6. Transfer from PMEG to MSc (Engineering Geology)

If the courses passed for the programme have been passed with an average grade of at least B+, then, subject to the Admission Regulations and with the approval of the Dean of Science, a candidate may elect to enter for the Degree of Master of Science in Engineering Geology.

Postgraduate Certificate in Antarctic Studies (PGCertAntaStud)

See also General Course and Examination Regulations.

1. Admission Requirements

Every candidate for the Postgraduate Certificate in Antarctic Studies shall have:

(a) either
  i. qualified for the award of any appropriate degree in New Zealand; or
  ii. been admitted ad eundem statum with graduate status in the University of Canterbury; and
(b) been approved as a candidate for the Postgraduate Certificate by the Dean of Science; and
(c) satisfied the medical examination as prescribed by Antarctica New Zealand.

Note: Admission to the Postgraduate Certificate is subject to Admission Regulations E Limitation of Entry Regulations.

Application for admission to the Postgraduate Certificate programme must be made by 1 August in the year of enrolment in the course.

2. Course of Study

(a) A candidate who fails any of the courses offered may not repeat those failed courses or offer any courses in its place. A Certificate of Proficiency for each course passed will be awarded.
(b) A candidate shall satisfactorily complete the prescribed course of study in one year, comprising ANTA 601 Antarctica: Contemporary Issues and Perspectives Part 1; ANTA 602 Antarctica: Contemporary Issues and Perspectives Part 2; ANTA 603 Antarctica Field Work; ANTA 604 Supervised Project in Antarctic Studies. Participation in the Scott Base component of ANTA 603 is subject to a medical examination as prescribed by Antarctica New Zealand.

3. Award of Certificate with Distinction

The Postgraduate Certificate in Antarctic Studies may be awarded with distinction.

Postgraduate Diploma in Applied Data Science (PGDipADS)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Diploma

Every candidate for the Postgraduate Diploma in Applied Data Science (PGDipADS), before applying to enrol in the diploma, shall have:

(a) qualified for a university degree in an area which is relevant to data science eg, biological sciences, computer science, digital humanities, economics, environmental science, finance, geography, geology, mathematics, physics, psychology, statistics, or any other relevant degree subject to approval of the Programme Director; and
(b) normally at least 90 points in relevant 300-level courses passed with a grade average that meets the approval of the Programme Director (the normal requirement is at least a B grade average); and
(c) have meet the prerequisites as specified in the BSc(Hons) or BA(Hons) regulations in at least one relevant subject to allow enrolment in 400-level courses, or higher, to fulfil the group B requirements; and
(d) been approved as a candidate for the qualification by the Dean of Science.

2. Structure of the Diploma

To qualify for the Postgraduate Diploma in Applied Data Science a candidate must complete a total of at least 120 points including:

(a) Up to 45 points from the Foundation courses listed in the schedule to the degree. Students who have completed an undergraduate degree that includes related undergraduate courses may substitute one or more foundation courses with other approved courses from Group B by approval of the Programme Director.
(b) All Group A courses listed in the schedule to the degree. With approval of the Programme Director students may substitute one or more of these courses with a more advanced course on the topic.
(c) At least 15 points from Group B courses listed in the schedule to the degree.

3. Full Time/Part-time Enrolment

A candidate may be enrolled for the degree of Postgraduate Diploma in Applied Data Science either on a full-time or part-time basis. A candidate may, because of employment, health, family or other reasons, enrol part-time with the approval of the Dean of Science.

4. Duration of the Programme

A candidate should normally follow a course of study of between 12 and 24 months. The maximum time allowed for a part-time candidate is 5 years.

5. Requirements for the Programme

(a) Candidates must satisfy the Programme Director that they have the necessary prerequisite knowledge to undertake the proposed courses from the schedule.
(b) Students can only fail up to 30 points, and must pass the repeated courses within the following year. Enrolment in an alternative course in its place will only be permitted in exceptional circumstances and requires a recommendation from the Programme Director and the permission of the Dean of Science.

Note: Practical and fieldwork may be required as part of any course.

6. Transfer from PGDipADS to MADS

If the courses passed for the Postgraduate Diploma in Applied Data Science satisfy the requirements for courses of the Master of Applied Data Science, and

if the candidate meets the standard required by the Programme Director, then with the approval of the Dean of Science, a candidate may enter the Master of Applied Data Science programme in lieu of being awarded the Diploma.

Schedule to the Regulations for the Postgraduate Diploma in Applied Data Science

For full course information, go to www.canterbury.ac.nz/courses

Foundation Courses: Foundational Data Science Competencies

Students will be required by the Programme Director to enrol in all the foundation courses unless there is evidence of prior learning in the fundamentals of data science:

(a) DATA 401 Statistics (15 points)
(b) COSC 480 Computer Programming (15 points)
(c) MBIS 623 Data Management (15 points).

Group A: Advanced Data Science Competencies

Students will be required to take the following courses. With approval of the Programme Director, other relevant courses can be substituted:

(a) MBIS 624 Data Analytics (15 points)
(b) DIGI 401 Digital Methods (30 points) or other Digital Humanities 400-level course as approved by the Programme Director
(c) STAT 447 Official Statistics (15 points)
(d) STAT 448 Big Data (15 points).

Group B: Domain-specific Competencies

400 or 600-level courses in Biological Sciences, Computer Science, Digital Humanities, Economics, Environmental Science, Finance, Geography, Geology, Mathematics, Physics, Psychology, Statistics, or in any other relevant degree subject as approved by the Programme Director and the Head of the relevant department. This group would normally include a course with a specified work-integrated learning component.

Postgraduate Diploma in Clinical Psychology (PGDipClinPsyc)

See also General Course and Examination Regulations.

Requirements for Registration as a Clinical Psychologist

To be eligible for registration as a Psychologist by the Psychologists Board under the Clinical Scope of Practice, applicants must have:

(a) a minimum of a Masters degree in Psychology from an accredited educational organisation, and
(b) a postgraduate diploma in clinical psychology (or equivalent) from an accredited educational organisation; and

as part of the postgraduate diploma, applicants must have completed a Board-approved practicum/internship of at least 1500 hours of supervised practice.

It is illegal under the Health Practitioners Competency Assurance Act 2003 to claim to be a psychologist or to practice psychology unless registered. The Psychologists Board offers registration as Intern Psychologist or Trainee Psychologist to those who have met the formal academic requirements for entry into the internship/practicum and where the internship/practicum is approved by the Board.

These Postgraduate Diploma Regulations are designed to ensure that candidates meet the Board's requirement for initial registration as Intern Psychologist and then for registration under the Clinical Scope of Practice upon graduating with the Diploma.

Candidates who do not have a Master's degree in Psychology on entry into the Diploma must concurrently enrol in either a Master's or PhD in Psychology (see Regulation 2 and 3) and complete the degree before they can graduate with the Diploma.

Candidates with a Master's degree in Psychology (and who therefore have met the Board's minimum degree requirement) may concurrently enrol in a PhD, but to avoid problems arising from time competition, concurrent enrolment in the PhD and the Internship is restricted.

1. Qualifications Required to Enrol in the Diploma

Every candidate for the Postgraduate Diploma in Clinical Psychology shall have:

(a) been credited with PSYC 335 (or an equivalent course) and an approved 400/600-level course in research methods;
(b) been accepted as a candidate by the Head of Department of Psychology on the recommendation of the Director of Clinical Training following an interview and review of application materials (See Notes 1 & 2 below); and
(c) as a minimum academic requirement have fulfilled the requirements for the BA(Hons), or Master of Arts (Part 1), or BSc(Hons), or Master of Science (Part 1) in Psychology.

2. Concurrent Enrolment in an MA or MSc

(a) Candidates who on entry to the Diploma have not qualified for the Degree of Master of Arts or Master of Science (or equivalent) in Psychology must have concurrently enrolled in a Master of Arts or Master of Science (Part 2) in Psychology before enrolling in Year 2 of the Diploma.
(b) Candidates who are enrolled in the Diploma and who are concurrently enrolled in Part 2 of the Master of Arts or Master of Science:
    i. will, with the permission of the Dean of Postgraduate Studies on the recommendation of the Head of Department, be enrolled part-time in the MA or MSc degree, and
    ii. must maintain satisfactory progress in their work for the degree in order to maintain enrolment in the Diploma.
(c) On the recommendation of the Head of Department and with the permission of the Dean of Postgraduate Studies, students may be permitted to enrol in a PhD instead of a Master of Arts or Master of Science.

(Note: This includes transfer to the PhD under 3(d) of the PhD Regulations.)

3. Concurrent enrolment in a PhD

Candidates for the Diploma who are qualified to do so may apply to enrol concurrently in a PhD. Such candidates

(a) will, with the permission of the Dean of Postgraduate Studies, on the recommendation of the Head of Department, be enrolled part time in the PhD, and
(b) must maintain satisfactory progress in their work for the degree in order to maintain enrolment in the Diploma,
(c) will only be permitted to enrol concurrently in PSYC 670 Internship in Clinical Psychology and the PhD if it is expected that the candidate will have submitted the PhD thesis by the end of the Internship (see the Preamble and Note 3 below).

4. Programme of Study

(a) Before applying to sit the graduating examination for the Diploma, candidates must have passed all the courses listed in the Schedule to the Postgraduate Diploma in Clinical Psychology except for PSYC 670 Internship in Clinical Psychology, and must have received satisfactory reports on their performance in PSYC 670 from their internship supervisors, and must be approved as a candidate for the examination by the Director of Clinical Training.
(b) Before being enrolled in PSYC 670 Internship in Clinical Psychology candidates enrolled under Regulation 2 in a Master's degree must have submitted their thesis for examination, and must have qualified for the award of the degree before the Diploma can be awarded.
(c) Candidates enrolled under Regulation 3 and who have not been awarded a Master's degree in Psychology must have qualified for the award of the PhD before the Diploma can be awarded.

5. Repeating of Courses

All courses must normally be passed at the first attempt (except for the Diploma examination, which is covered by Regulation 6c). Where a candidate's performance or ability to study has been impaired by illness or other circumstances, and an aegrotat consideration is not available, the Dean of Science may permit the candidate to repeat course work and/or undergo assessment one further time.

6. Examination for the Diploma

(a) Candidates who have qualified to sit the graduating examination for the Diploma must apply in writing to sit the examination.
(b) Candidates who are unsuccessful in the graduating examination may apply to sit the examination a maximum of two additional times. However, candidates must successfully pass the

exam within two years of the first attempt or within five years of first enrolling in PSYC 670, whichever comes first.

7. Award of the Diploma with Distinction

The Diploma may be awarded with Distinction on the recommendation of the examiners.

Note: Distinction indicates a grade point average of A- or better in those courses in the Schedule which are awarded with grades, plus an exceptional level of performance in the graduating examination.

Notes to the Regulations

1. *Candidates must also consult the Clinical Psychology Handbook for admission criteria and information on planning courses. The Director of Clinical Training and the Head of Department will determine whether the candidate has completed an appropriate set of 300 and 400-level courses (which if taken at the University of Canterbury would be part of BSc(Hons), BA(Hons), Part I MSc, or Part 1 MA in Psychology.) The Handbook also provides information on recommended courses of study at both the undergraduate and the 400-level that precede completion of a Master's or PhD.*
2. *Application for admission must be made by 30 September in the previous year.*
3. *As provided for in Regulation 3 above, concurrent enrolment in PhD and the internship will only be approved if it is expected that the candidate will complete the PhD by the end of the internship training. If approval is not given then a candidate must demonstrate satisfactory progress on the PhD before concurrent enrolment in the internship is approved.*
4. *Candidates who have*
   (a) been credited with PSYC 670, or PSYC 671 and PSYC 672, and PSYC 428 Forensic Psychology, and
   (b) completed requirements for an MA or MSc or PhD in Psychology with a thesis on a topic approved by the Head of Department as relevant to criminal justice, and
   (c) completed 300 hour's work in a criminal justice setting,

   shall receive a Certificate in Criminal Justice Psychology.

Schedule to the Regulations for the Postgraduate Diploma in Clinical Psychology

For full course information, go to www.canterbury.ac.nz/courses

Year 1: 0.6 EFTS

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
PSYC 641	Advanced Psychopathology	30	W	P: Subject to approval of the Head of Department.
PSYC 642	Psychometric Assessment Methods	18	W	P: Subject to approval of the Head of Department.
PSYC 643	Year 1 Practicum	24	W	P: Subject to approval of the Head of Department.

Year 2: 0.6 EFTS

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
PSYC 651	Psychotherapeutic Methods	30	W	P: Subject to approval of the Head of Department.
PSYC 653	Year 2 Practicum	30	W	P: Subject to approval of the Head of Department.
PSYC 654	Comprehensive Exam in Clinical Psychology	12	W	P: Subject to approval of the Head of Department.

Year 3: 1.0 EFTS

Course Code	Course Title	Pts	2017	P/C/R/RP/EQ
PSYC 661	Advanced Topics in Clinical Psychology 1	30	W	P: (1) PSYC 651, PSYC 653, PSYC 654 (2) Entry is subject to approval of the Head of Department.
PSYC 662	Advanced Topics in Clinical Psychology II	30	W	P: (1) PSYC 651, PSYC 653, PSYC 654 (2) Entry is subject to approval of the Head of Department
PSYC 670	Internship in Clinical Psychology	60	A	P: PSYC 651, PSYC 653, PSYC 654. Entry is subject to Head of Department approval. C: PSYC 661, PSYC 662.

PSYC 671	Internship in Clinical Psychology A - Part-time	30	A	P: (1) PSYC 651, PSYC 653, PSYC 654 (2) Entry is subject to approval of the Head of Department C: PSYC 661, PSYC 662 R: PSYC 670
PSYC 672	Internship in Clinical Psychology B - Part-time	30	A	P: PSYC 651, PSYC 653, PSYC 654, PSYC 671 C: PSYC 661, PSYC 662 R: PSYC 670

Postgraduate Diploma in Geographic Information Science (PGDipGIS)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Diploma

Every candidate for the Postgraduate Diploma in Geographic Information Science, before enrolling in the degree, shall have:

(a) either:
   i. qualified for a degree in a New Zealand University which is of relevance to the proposed course of study; or
   ii. presented evidence of ability for advanced level academic study; or
   iii. been admitted ad eundem status to enrol for the Postgraduate Diploma in Geographic Information Science; and

(b) been approved as a candidate by the Director: GIS and Dean of Science.

2. Admission to the Degree

Students planning to complete a Postgraduate Diploma in GIS must apply for admission to the programme. It is the responsibility of the student to ensure that an up-to-date official academic record is sent to the Department of Geography as soon it is available. Students must also Apply to Enrol.

3. Structure of the Programme

(a) All students admitted to the Postgraduate Diploma in Geographic Information Science will complete a coherent programme of study approved by the Programme Director: GIS.

(b) The requirements for the Postgraduate Diploma in Geographic Information Science shall be GISC 401, GISC 402, GISC 403, and GISC 404, and at least another four 400-level courses (two of which must be GISC courses) listed in the University of Canterbury Calendar and other university calendars relevant to a coherent programme of study for each student that is approved by the Director: GIS. The total course weight for the Postgraduate Diploma in Geographic Information Science will be at least 1.00 EFTS.

(c) At the discretion of the Director: GIS, an approved course of study may include up to a total of 0.25 EFTS in 400-level courses or higher from another New Zealand institution.

(d) Candidates must satisfy the Director: GIS that they have the necessary prerequisite knowledge to undertake the proposed courses from the Schedule .

4. Award of the Diploma with Distinction or Merit

The Postgraduate Diploma in Geographic Information Science may be awarded with Distinction or Merit.

Note: The award of Distinction indicates a grade average in the range A+ to A-; the award of Merit indicates a grade average of B+.

5. Full-time and Part-time Enrolment

A candidate may be enrolled for full-time or part-time study. A part-time candidate is one who, because of employment, health, family or other reasons, is unable to devote his or her full-time to study. Part-time enrolment requires the approval of the Dean of Science.

6. Duration of the Course

(a) A full-time candidate shall normally follow a course of study for not less than one year and not more than two years of study. Extension requires the approval of the Dean of Science.

(b) A part-time candidate shall be required to follow a programme of study with time limits determined by the Dean of Science on the recommendation of the Director: GIS. Normally, the maximum period for part-time study is four years.

7. Repeating of Courses

(a) A candidate who fails any of the courses offered will require the permission of the Dean of Science and the approval of the Director: GIS to repeat those failed courses or offer any other course in its place.

(b) A candidate who fails any courses offered and

is not successful under Regulation 7(a) shall not be awarded the Postgraduate Diploma in Geographic Information Science, but will be awarded a Certificate of Proficiency for each course passed at the University of Canterbury.

8. Transfer from PGDipGIS to MGIS

If the courses passed for the Postgraduate Diploma in Geographic Information Science satisfy the requirements for Part 1 of the Master of Geographic Information Science and if the candidate meets the standard required by the Director: GIS (normally a B grade average or better) then, with the approval of the Dean of Science and provisional on the availability of suitable supervision, a candidate may elect:

(a) to have the courses transferred to the degree of Master of Geographic Information Science in lieu of being awarded the Diploma; or
(b) to enter the degree of Master of Geographic Information Science under Master's Regulation 1 (a) i.

Schedule to the Regulations for the Postgraduate Diploma in Geographic Information Science

For full course information, go to www.canterbury.ac.nz/courses

Compulsory courses

All of the following four courses:

(a) GISC 401 Foundations of Geographic Information Science (0.125 EFTS)
(b) GISC 402 Geographic Information Science Research (0.125 EFTS)
(c) GISC 403 Cartography and Geovisualisation (0.125 EFTS)
(d) GISC 404 Geospatial Analysis (0.125 EFTS)

Group A

At least one of the following courses:

(a) GISC 405 GIS Programming and Databases (0.125 EFTS)
(b) GISC 406 Remote Sensing for Earth Observation (0.125 EFTS)

Group B

At least one of the following courses:

(a) GISC 410 GIS 2.0 (0.125 EFTS) (Offered by Victoria University of Wellington)
(b) GISC 411 GIS in Health (0.125 EFTS)
(c) GISC 412 Spatial Algorithms and Programming (0.125 EFTS)
(d) GISC 413 Special Topic: Geomatic Data Acquisition Techniques (0.125 EFTS)
(e) GISC 415 Geographic Information Systems (GIS) Internships (0.125 EFTS)
(f) GISC 416 Special Topic (0.125 EFTS)

And/or two other courses at 400-level or higher (to a maximum of 0.25 EFTS) relevant to a coherent programme of study with approval of the Director: GIS.

A total course weighting of at least 1.0 ETS must be completed.

Postgraduate Diploma in Science (PGDipSc)

See also General Course and Examination Regulations.

1. Subjects in Which the Diploma May be Awarded

The subjects for the Postgraduate Diploma in Science are: Astronomy, Biochemistry, Biological Sciences, Biotechnology, Cellular and Molecular Biology, Chemistry, Child and Family Psychology, Computer Science, Ecology, Economics, Environmental Science, Evolutionary Biology+, Finance, Geography, Geology, Mathematics, Medical Physics, Microbiology, Philosophy, Physics, Plant Biology+, Psychology, Statistics, Zoology+.

+ Not open to new enrolments in 2017.

2. Qualifications Required to Enrol in the Diploma

(a) Every candidate for the Postgraduate Diploma in Science shall, before enrolling for the Diploma, fulfil one of the following conditions: either
    i. qualify for the Degree of Bachelor of Science; or
    ii. qualify for a Bachelor's degree and if necessary passed a qualifying programme in such courses from the schedule to the regulations for the Degree of Bachelor of Science as may be required by the Dean of Postgraduate Studies; or
    iii. be admitted ad eundem statum as entitled to enrol for the Postgraduate Diploma in Science.

(b) A candidate shall have met the prerequisites prescribed in the Schedule to these Regulations.
(c) Every candidate for the diploma shall have been approved as a candidate by the Dean of Science.

3. Structure of the Diploma

(a) The programme for the Diploma shall consist of a total of 120 points/1.00 EFTS from courses as laid down in the Prescriptions for the subject, to be passed in one year unless in a particular case the Dean of Science resolves otherwise.
(b) With the approval of the Heads of Departments/Schools, a candidate may replace courses up to 60 points with 400-level courses prescribed for other subjects.

4. Repeating of Courses

(a) A candidate who fails any of the courses, or who otherwise does not attain a standard satisfactory to the Dean of Postgraduate Studies shall not be permitted to repeat any of those courses, or offer any other course in their place.
(b) In the case of a candidate who fails no more than 0.25 EFTS of the diploma programme, the Dean of Science, on the advice of the Head of Department/School concerned, may recommend a pass in the diploma as a whole, provided the candidate has achieved a grade average of at least B- in the diploma programme as a whole, including any failed courses.
(c) A candidate who fails more than 0.25 EFTS of the diploma programme, or who failed no more than 0.25 EFTS but was not offered a pass in the diploma as a whole under Regulation 4(b), will be awarded a Certificate of Proficiency for each course passed.
(d) Notwithstanding 4(a), 4(b) and 4(c), a candidate who qualifies for an aegrotat award, in some or all of the courses (see General Course and Examination Regulation H) may elect either:
    i. to accept for the courses affected the grades recommended by the examiners under that Regulation;
    ii. to present all or some of those courses once at a subsequent examination.

5. Transfer from PGDipSc to MSc

If the courses passed for the Diploma also satisfy the requirements for Part I of the MSc, and if the candidate meets the standard required by the department for entry to MSc Part II, then, subject to the Admission Regulations and with the approval of the Dean of Science, a candidate may elect either:
(a) to have the courses transferred to the Degree of Master of Science in lieu of being awarded the Diploma;
(b) to enter for the Degree of Master of Science under Regulation 2(a)(iv) if the Diploma has been awarded.

6. Award of PGDipSc Instead of MSc Part I

A candidate who has successfully completed Part I of the Degree of Master of Science may have this part of the degree programme credited towards a Postgraduate Diploma in Science instead of the Degree of Master of Science.

7. Award of PGDipSc after Attempting MSc Part I

Where a candidate for the Degree of Master of Science does not attain a satisfactory standard in the Part I examination, but does fulfil the requirements for the Postgraduate Diploma in Science, the Dean of Science, on the advice of the examiners, may recommend the award of the Postgraduate Diploma in Science.

8. Award of PGDipSc With Distinction or Merit

The Postgraduate Diploma in Science may be awarded with Distinction or Merit.

Note: The award of Distinction indicates a grade average in the range A- to A+; the award of Merit indicates a grade average of B+.

Schedule to the Regulations for the Postgraduate Diploma in Science

For full course information, go to www.canterbury.ac.nz/courses

** Subject to Universities New Zealand CUAP approval, due December 2016.*

Astronomy

Either: ASTR 480, PHYS 407, ASTR 422, ASTR 423 or ASTR 425, and three other courses chosen from ASTR 421–427, PHYS 411–460, MDPH 403, MDPH 406, with a maximum of two courses from PHYS 440–460;

Or: ASTR 422, ASTR 423 or ASTR 425, and six other courses chosen from ASTR 421–427, ASTR 430, PHYS 411–460, MDPH 403, MDPH 406, with a maximum of three courses from PHYS 440–460.

Not all courses may be offered in any one year.

With the approval of the Head of Department, up to two courses may be replaced by appropriate courses from another subject.

Note: The choice of courses is subject to the approval of the Head of Department of Physics and Astronomy.

P: 60 points in 300-level ASTR or PHYS courses approved by the Head of Department.

Biochemistry*

Courses totalling at least 120 points as approved by the Director of Biochemistry. Normally courses are selected from BCHM 455 (BIOL 455), BCHM 456 (BIOL 456), BCHM 457 (BIOL 457), BCHM 459 (BIOL 459), BCHM 460 (BIOL 460), BCHM 461 (BIOL 461), BCHM 462 (BIOL 462), BCHM 420, and CHEM 421–422. Other suitable courses include: BCHM 407–409, BIOL 429-462, BIOL 481, BIOL 496.

P: 84 points in 300-level courses: 70 points from BCHM 301 (BIOL 331), BCHM 302 (CHEM 325) and BCHM 381; and additional points normally from CHEM 321, CHEM 322, CHEM 324, CHEM 362, CHEM 381, BIOL 313, BIOL 330, BIOL 351 or BIOL 352.

Biological Sciences*

Courses totalling at least 120 points including BIOL 411 and BIOL 412. At least 60 points are to be selected from other BIOL 400-level courses. The remaining courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P.

(1) 60 points from 300-level BIOL courses; and
(2) BIOL 309 or GEOG 309 or PSYC 206 or STAT 201 or STAT 202.

Biotechnology*

Courses totalling at least 120 points including BIOL 411, BIOL 412 and BIOL 496. At least 15 points to be selected from BIOL 429, BIOL 455-456, and BIOL 459-461. The remaining courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P.

(1) BIOL 252 or BIOL 254; and
(2) BIOL 352; and
(3) At least 30 points selected from BIOL 313, BIOL 330, BIOL 331, BIOL 333, BIOL 335.

Note: Students will normally be expected to take BIOL 309.

Cellular and Molecular Biology*

Courses totalling at least 120 points including BIOL 411 and BIOL 412. At least 30 points are to be selected from BIOL 455–456 (BCHM 455–456), BIOL 459–462 (BCHM 459–462) and BIOL 496. The remaining courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P: At least 60 points selected from BCHM 301, BIOL 313, BIOL 330, BIOL 331, BIOL 333, BIOL 334 ,BIOL 335, BIOL 351, BIOL 352.

Note: Students will normally be expected to take BIOL 309.

Chemistry

All four courses from CHEM 421–424. *Note: With the approval of the Head of Department, one of the courses may be replaced by Honours 400-level courses from another subject with a total EFTS of at least the same value.*

P: 60 points at 300-level in the same subject.

Child and Family Psychology

1.00 EFTS (120 points) which shall normally be chosen from CFPY 601-604, HLTH 472 and one of EDEM 695–697, or HLTH 462, or PSYC 460 or PSYC 461 or PSYC 464.

P:

(1) A Bachelor's degree with a major in Psychology; or
(2) Any relevant Bachelors degree and a Graduate Diploma of Arts or Science in Psychology; and
(3) PSYC 206 Research Design and Statistics or other research methods course deemed equivalent.

Notes:

1. *Students will normally be expected to have at least a B- and above average in their 300-level undergraduate courses.*
2. *Students wishing to transfer from PGDipSc to MSc under PGDipSc Regulation 5 will be required to complete a further 30 points of coursework. Please refer to Schedule A to the Regulations for the Degree of Master of Science for Child and Family Psychology Part I requirements.*

Computer Science*

Eight courses chosen from COSC 401–439, 462–474 and all SENG 400-level courses with the exception of SENG 402. Students who consider changing into the MSc in Computer Science need to take COSC 469.

P: 60 points at 300-level in Computer Science (including SENG 301, SENG 302, SENG 365, ENCE 360, ENCE 361).

Ecology*

Courses totalling at least 120 points including BIOL 411 and BIOL 412. Additional courses are to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 420, BIOL 423-429, BIOL 438, ENVR 410, ENVR 411, and FORE 616.

P.

(1) 60 points from BIOL 370–379; and
(2) BIOL 309 or equivalent.

Economics

120 points (1.00 EFTS) from ECON 601–679 with approval from the Head of Department.

P.

(1) ECON 206 or ECON 325; and
(2) ECON 213 or STAT 202 or STAT 213; and
(3) ECON 203 or (ECON 207 and ECON 208); and
(4) 60 points from 300-level Economics courses, including ECON 321, ECON 324, ECON 326 (or equivalent as approved by the Head of Department).

Alternatively, a student may apply to enter with a Graduate Diploma in Economics or a Graduate Diploma in Science, normally including ECON 321, ECON 324 and ECON 326.

Environmental Science

ENVR 410 and 411, plus selected courses as for MSC Part I, with the approval of the Course Coordinator.

P: 84 points in appropriate 300-level courses in Science, Engineering, and Forestry approved by the Coordinator.

Note: Normally all prerequisites must be satisfied.

Evolutionary Biology+

+ Not open to new enrolments in 2017.

Courses totalling at least 120 points including BIOL 411 and BIOL 412. At least 30 points are to be selected from BIOL 423, BIOL 429, BIOL 438, BIOL 456 (BCHM 456), BIOL 459 (BCHM 459) and BIOL 460 (BCHM 460). Additional courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P.

(1) BIOL 271; and
(2) 60 points from BIOL 330, BIOL 332, BIOL 334, BIOL 335, BIOL 371, BIOL 373; and
(3) BIOL 309 or equivalent background in statistics.

Geography

Courses equivalent to 1.0 EFTS or 120 points from GEOG 401–420 and GISC 403–413 and GISC 416, with approval of the Head of Department. Enrolment in GEOG 420 Research Project is recommended.

Note: Not all courses will be offered in any one year.

P: Students will normally be expected to either:

(1) have passed 84-90 points in 300-level courses approved by the Head of Department, including GEOG 309 and at least 28–30 other points in 300-level Geography courses, or
(2) to have completed 112–120 points at 300-level, of which 56–60 points are in Geography and 56–60 points are in subjects approved by the Head of Department.

Finance

120 points (1.00 EFTS) from FINC 601–679 with approval from the Head of Department.

P.

(1) ECON 202; and
(2) ECON 213 (or any 30 points from STAT 200-level courses); and
(3) FINC 205; and
(4) FINC 331.

Or: a bachelor's degree in a subject other than Finance, but including:

(1) ECON 213 (or any 30 points from STAT 200-level courses); and
(2) FINC 331; and
(3) an additional 30 points in 300-level FINC courses.

Geology

Eight courses from GEOL 473–489 with the approval of the Head of the Department of Geological Sciences.

Notes:

1. *With the approval of the Head of the Department of Geological Sciences, up to three courses from another relevant subject may replace three of the courses, or one full year course from another relevant subject may replace two of the courses.*
2. *Practical and fieldwork may be required as part of any GEOL 473–489 courses.*
3. *Not all courses may be offered in any one year.*

P: GEOL 351 and GEOL 352 (or equivalent fieldwork), and 60 points from other GEOL 300-level courses, passed with a grade average that meets the approval of the Head of Department (the normal requirement is at least a B grade average).

Mathematics

Eight courses chosen from MATH 401–490 and STAT 401–490 (other than MATH 449 or STAT 449). Normally one of the eight courses must be MATH 443 if the student has not been credited with MATH 343 previously. Normally at least six courses will be chosen from the MATH course list.

P.

(1) 45 points from MATH 201, MATH 202, MATH 203, MATH 220 and MATH 240, including MATH 201 and at least one of (MATH 202 or MATH 203); and
(2) 60 points from MATH 301–394; and
(3) An additional 30 points from MATH 301–394 and STAT 301–394 or other approved courses.

Medical Physics

Seven courses from MDPH 401–410 and one course from PHYS 410–460. With the approval of the Head of Department, one of these courses may be replaced by an appropriate course from another subject. *Note: The choice of courses is subject to the approval of the Head of Department of Physics and Astronomy.*

P: 90 points at 300-level, approved by the Head of Department.

Microbiology*

Courses totalling at least 120 points including BIOL 411, BIOL 412, BIOL 455 (BCHM 455) and BIOL 456 (BCHM 456). At least 30 points are to be selected from BIOL 457 (BCHM 457), BIOL 459 (BCHM 459), BIOL 460 (BCHM 460), BIOL 463 and BIOL 496. Additional courses may be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P.

(1) BIOL 313; and
(2) At least 45 points selected from BCHM 301, BIOL 330, BIOL 331, BIOL 333, BIOL 335, BIOL 351, BIOL 352.

Note: Students will normally be expected to take BIOL 309.

Philosophy*

120 points chosen from PHIL 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 463, 464, 467, 468, 469, 470, 471, 472, 474 495, 498.

P: 60 points at 300-level in the same subject.

Physics

Either: PHYS 407, PHYS 480 and five courses chosen from PHYS 411–460, ASTR 421–425, MDPH 403, MDPH 406, with a maximum of two courses from PHYS 440–460.

Or: Eight courses chosen from PHYS 401–460, ASTR 421–425, MDPH 403, MDPH 406, with a maximum of three courses from PHYS 440–460.

Not all courses may be offered in any one year.

With the approval of the Head of Department, up to two courses may be replaced by appropriate courses from another subject.

Note: The choice of courses is subject to the approval of the Head of Department of Physics and Astronomy.

P: 60 points in 300-level PHYS courses approved by the Head of Department.

Plant Biology+

+ Not open to new enrolments in 2017.

Courses totalling at least 120 points including BIOL 411 and BIOL 412. Remaining courses are to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 423-429, BIOL 455, BIOL 459-461, BIOL 463 and BIOL 496.

P: At least 60 points from 300-level BIOL courses.

Note: Students will normally be expected to take BIOL 309.

Psychology*

Courses totalling 120 points (1 EFTS) selected with the approval of the Head of Department from any 400-level courses in Psychology. One 300-level course may be substituted for a 400-level course of equivalent points value with the approval of the HoD.

P.

(1) PSYC 105 and PSYC 106; and
(2) PSYC 206, and three courses from PSYC 207–212; and
(3) At least 75 points of 300-level PSYC, including PSYC 344.

A B grade in three PSYC 300-level courses is normally required.

Statistics

Part I: Eight courses chosen from STAT 401–490 and MATH 401–490 (other than STAT 449 or MATH 449). One of the eight courses must be STAT 464 if the student has not been credited with STAT 213 or STAT 214 previously. Normally at least six courses will be chosen from the STAT course list.

P.

(1) MATH 103, MATH 109 or MATH 199; and
(2) 45 points from STAT 201–294; and
(3) 60 points from STAT 301–394; and
(4) An additional 30 points from STAT 301–394 and MATH 301–394 or other approved courses.

Zoology+

+ Not open to new enrolments in 2017.

Courses totalling at least 120 points including BIOL 411 and BIOL 412. Additional courses are to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 424-429, BIOL 459-463 and BIOL 481.

P: At least 60 points from 300-level BIOL courses.
Note: Students will normally be expected to take BIOL 309.

Postgraduate Diploma in Water Resource Management (PGDipWaterRM)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Diploma

Every candidate for the Postgraduate Diploma in Water Resource Management, before enrolling for the diploma, shall have:

(a) either
  i. qualified for a degree in a New Zealand university which is of relevance to the proposed course of study; or
  ii. presented evidence of ability for advanced level academic study; or
  iii. been admitted ad eundem statum to enrol for the Postgraduate Diploma in Water Resource Management.
(b) been approved as a candidate by the Dean of Science.

2. Award of the Diploma with Distinction or Merit

The Postgraduate Diploma in Water Resource Management maybe awarded with Distinction or Merit.

Note: The award of Distinction indicates a grade average in the range A+ to A-; the award of Merit indicates a grade average of B+.

3. Structure and Requirements of the Diploma

The programme for the Postgraduate Diploma in Water Resource Management is:

(a) All students admitted to the Postgraduate Diploma in Water Resource Management will complete a coherent programme of study approved by the Director of the Waterways Centre.
(b) The requirements for the Postgraduate Diploma in Water Resource Management shall be WATR 401 (or WATR 601 at Lincoln University), WATR 402 (WATR 602), WATR 403 (WATR 603), and at least 30 points from WATR 404, GEOG 404, ENVR 410 and ENVR 411 at the University of Canterbury, and LWST 602, MAST 603, ERST 621, ERST 630, ERST 632, ERST 633 and ECON 606 at Lincoln University. The remainder of the courses can be selected from appropriate 400-level courses (or 600-level courses at Lincoln University) as approved by the Director of the Waterways Centre for Freshwater Management, and as listed in the University of Canterbury or other University Calendars relevant to a coherent programme of study for each student. The total course weight of the programme will be at least 1.0 EFTS.
(c) Candidates must satisfy the Director of the Waterways Centre for Freshwater Management, that they have the necessary prerequisite knowledge to undertake the proposed courses from the Schedule.

4. Full-time and Part-time Enrolment

A candidate may be enrolled for the Postgraduate Diploma in Water Resource Management either on a full-time or part-time basis. A part-time candidate is one who, because of employment, health, family or other reasons, is unable to devote his or her full-time to study. Part-time enrolment requires the approval of the Dean of Science.

5. Duration of the Programme

A candidate shall complete the diploma according to the following timeframe:

Full-time, 1 year; Part-time, 2 years

Any student seeking to complete outside of these timeframes must seek the permission of the Programme Director and the Dean of Science.

6. Repeating of Courses

(a) Re-enrolment to repeat failed courses or offer any other course in its place will only be permitted in exceptional circumstances with the permission of the Director of the Waterways Centre for Freshwater Management and the Dean of Science.
(b) A candidate who fails any courses offered for the Postgraduate Diploma in Water Resource Management and is not successful under Regulation 6(a), shall not be awarded the Postgraduate Diploma, but will be awarded a Certificate of Proficiency for each course passed.

7. Transfer from Postgraduate Diploma in Water Resource Management to Master of Water Resource Management

If the courses passed for the Postgraduate Diploma in Water Resource Management satisfy the requirements for Part I of the Master of Water Resource Management and if the candidate meets the standard required by the Director of the Waterways Centre (normally a B grade average or better) then, with the approval of the Dean of Science, a candidate may elect:

(a) to have the courses transferred to the degree of Master of Water Resource Management in lieu of being awarded the Diploma; or
(b) to enter the degree of Master of Water Resource Management under Master's Regulation 2(a)(i).

Schedule to the Regulations for the Postgraduate Diploma in Water Resource Management

(a) WATR 401 Advanced Water Resources, compulsory (15 points/0.125 EFTS)
(b) WATR 402 Determinants of Water Availability & Quality, compulsory (15 points/0.125 EFTS)
(c) WATR 403 Water Management, Policy and Planning, compulsory (15 points/0.125 EFTS)

Note: At Lincoln University the course codes are WATR 601, 602 and 603 respectively, and the courses are worth 20 points/0.167 EFTS.

Other 400-level courses (or higher) relevant to a coherent programme of study with a total course weighting of at least 1.0 EFTS. This should include a minimum of 0.25 EFTS from the following:

(a) WATR 404 Water Special Topic (0.125 EFTS)
(b) GEOG 404 Resource and Environmental Management (0.25 EFTS)
(c) ENVR 410 Concepts and Principles of Environmental Science (0.125 EFTS)
(d) ENVR 411 Case Studies in Environmental Sciences (0.125 EFTS)
(e) MAST 603 (LU) Mana Kaitiaki (Māori Resource Management) (0.167 EFTS)
(f) ERST 630 (LU) Environmental Policy (0.167 EFTS)
(g) LWST 602 (LU) Advanced Resource Management Law (0.167 EFTS)
(h) ERST 633 (LU) Integrated Environmental Management (0.167 EFTS)
(i) ECON 606 (LU) Natural Resource and Energy Economics (0.167 EFTS)
(j) ERST 621 (LU) Principles of Environmental Impact Assessment (20 points)
(k) ERST 632 (LU) Economics in Environmental Policy (20 points)

A list of additional 400-level courses (or higher), which are highly recommended for students with the suitable prerequisites, will be made available by the Waterways Centre for Freshwater Management. Final course approval will be required from the Director of the Waterways Centre.