Faculty of Science

The Degree of Bachelor of Science (BSc)

See also General Course and Examination Regulations.

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; Electronics*; Finance; Geography; Geology; Linguistics; Management Science; Mathematics; Philosophy; Physics; Psychology; Statistics

**No new enrolments are being accepted from 2011 onwards.*

(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.

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 225 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)

13. Transition Rules for Students Enrolled for the Degree of Bachelor of Science prior to 10 December 2010

(a) To qualify for the degree of Bachelor of Science:
   i. a candidate who enrolled for the first time before 10 December 2010 must pass courses having a minimum total value of 357 points;
   ii. at least 254 points must be from the Schedule to the Regulations for the Degree of Bachelor of Science;
   iii. at least 215 points must be above 100-level;
   iv. at least 84 points must be for courses at 300-level;
   v. at least 56 points of that 84 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.

(b) A student whose course of study does not meet the above requirements and who can demonstrate that he/she has been disadvantaged by the introduction of 15 point courses may present a case to the Dean of Faculty for consideration.

Note: To graduate under these regulations the qualification must be completed by 31 December 2013.

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

Astronomy

100-level

Strongly recommended: ASTR112, PHYS 101, PHYS 102, MATH 102, MATH 103, and (MATH 170 or COSC 121). PHYS 101 is offered in Semesters 1 and 2 and PHYS 102 is offered in Semester 2 and as a Summer Programme.

200-level

Required: (ASTR 211 or ASTR 212); (PHYS 204 and PHYS 285) or (PHYS 281 and PHYS 282); and 30 points from PHYS 201-203 or 22 points from PHYS 221-224; and MATH 201 and 15 further points of 200-level MATH or 22 points from MATH 251-264.

Recommended: PHYS 201-203 and MATH 202-203.

300-level

Required: ASTR 381; 15 points selected from ASTR 301-379; 15 points selected from PHYS 301-379; and a further 15 points from ASTR 301-379, PHYS 301-379, ELEC 322-323. If PHYS 204 not taken, PHYS 310 must be included.

Required for postgraduate: Students intending to proceed to BSc(Hons) or MSc should take PHYS 311 and PHYS 312 and two courses from 300-level MATH. Students interested in theoretical physics courses should take PHYS 326. For detailed requirements refer to the BSc(Hons) or MSc entries in the Postgraduate section.

Biochemistry

100-level

Required: BIOL 111 and CHEM 112 or (CHEM 114 and 115)

Recommended: BIOL 112, BIOL 113 and (CHEM 111 or CHEM 113 or CHEM 121)

200-level

Required: BCHM 202 (BIOL 231), BCHM 221, BCHM 222, BCHM 281 (CHEM 281), BCHM 212 (CHEM 212) or CHEM 232; and at least one of BCHM 206 (CHEM 242) or BCHM 253 (BIOL 253)

Recommended: BCHM 206 (CHEM 242) and BCHM 253 (BIOL 253)

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

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 one of BIOL 313, BIOL 330, BIOL 331

Cellular and Molecular Biology: three of BCHM 301, BIOL 313, BIOL 330, BIOL 331, BIOL 351, BIOL 352

Ecology: 60 points from BIOL 370-379; and BIOL 309 or BIOL 301 or equivalent

Microbiology: BIOL 313 and one of BIOL 330, BIOL 331, BIOL 352

Plant Biology: 90 points in 300-level BIOL courses

Zoology: 90 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 must include BIOL 309 (or equivalent).

Chemistry

100-level

Required: 30 points from CHEM 111–121

200-level

Required: CHEM 211, either CHEM 212 or BCHM 212, and 30 points from CHEM 241–243, BCHM 206; or 44 points from CHEM 213–273, BCHM 205 and 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, and at least 30 points of 100-level Mathematics and Statistics. 15 points are required to advance to 200-level COSC and 30 points to advance to 300-level COSC.

Recommended: COSC 110 and (MATH 120 or STAT 101).

200-level

Required: COSC 261 and a further 30 points selected from 200-level COSC courses and ENCE 260.

300-level

Required: At least 60 points of 300-level Computer Science.

Required for honours: At least 90 points of 300-level Computer Science.

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) or (MATH 108 and 109) and 15 points of 100-level Statistics.

Required for honours: MATH 102 or MATH 108

200-level

Required: either (1) (ECON 201 or ECON 206) and (ECON 202 or ECON 207) and either ECON 213 or (ECON 203 or ECON 208); or (2) (ECON 201 or ECON 206) and (ECON 230 or ECON 231).

Required for honours: ECON 213 or STAT 213

300-level

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

Required for honours: 60 points from ECON 321-326.

Electronics

Note: No new enrolments are being accepted into this major in 2011.

100-level

Strongly recommended: PHYS 101, PHYS 102, MATH 102, MATH 103, MATH 170 and COSC 121. PHYS 101 is offered in Semesters 1 and 2 and PHYS 102 is offered in Semester 2 and as a Summer Programme.

200-level

Required: COSC 208 or ENCE 260

Recommended: ELEC 201, ELEC 202, PHYS 201, PHYS 202, PHYS 285

300-level

Required: ELEC 321 and ELEC 381, and a further 30 points selected from ELEC 301-379, PHYS 312, COSC 361.

Finance

100-level

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

Strongly recommended: ACIS 102, ECON 104, MATH 103

200-level

Required: FINC 201 and FINC 203

Recommended: FINC 205 and ECON 202 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

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 GEOL 112

Required for honours:

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

Engineering Geology: 15 points of 100-level Mathematics and a further 30 points from 100-level Astronomy, Biological Sciences, Chemistry, Computer Science, Geography, 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 and Engineering Geology, PGDipSc in Geology, PGDipEngGeol, or MSc in Geology or 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 of 100-level MATH, or a demonstrably equivalent standard in Mathematics, are a prerequisite for entry to 400-level ENGE

History and Philosophy of Science

Students intending to complete the BSc with a minor in History and Philosophy of Science must be credited with 45 points in HAPS, of which at least 30 points are at 200-level or above; and an additional 30 points in PHIL or HIST, including at least one of PHIL 220, PHIL 243, PHIL 249.

Linguistics

Major

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 LING 102.

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 Co-ordinator

Minor

Students intending to complete the BSc with a minor in Linguistics must be credited with at least 75 points in Linguistics which must include at least 45 points at 200-level or above.

Management Science

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

Recommended for honours in Operations Research: MATH 102 and MATH 103.

200-level

Required: At least 30 points of 200-level MSCI

Required for honours in Operations Research: (MSCI 201 and MSCI 202) or MSCI 204; MSCI 210 or MSCI 280; MSCI 203 or MSCI 216

Recommended for honours in Operations Research: MATH 201 or MATH 203.

300-level

Required: At least 60 points of 300-level MSCI

Required for honours in Operations Research: MSCI 301 and MSCI 302, and at least 30 points from MSCI 320, MSCI 321, MSCI 323, MSCI 324, MSCI 340, MSCI 370, MSCI 371, MSCI 372, MSCI 373.

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. Note: MATH 230 may be counted as Philosophy points towards a BSc in Philosophy.

300-level

Required: At least 60 points of 300-level Philosophy (or equivalent) (not including ARTS 395), 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

Strongly recommended: PHYS 101, PHYS 102, MATH 102, MATH 103, and (MATH 170 or COSC 121). PHYS 101 is offered in Semesters 1 and 2 and PHYS 102 is offered in Semester 2 and as a Summer Programme.

200-level

Required: (PHYS 204 and PHYS 285) or (PHYS 281 and PHYS 282); 30 points from PHYS 201–203 or 22 points from PHYS 221–224; and MATH 201 and 15 further points of 200-level MATH or 22 points from MATH 251–264

300-level

Required: PHYS 381; 30 points from PHYS 301–322, PHYS 326–379; and 15 points selected from PHYS 301–379, ASTR 301–379 and ELEC 322–323. If PHYS 204 is not taken, PHYS 310 must be included. Note: A student who has taken PHYS 310 may be permitted by the HOD to obtain a double major in Physics and Mathematics without PHYS 381.

In any Physics course that involves assessed laboratory or tutorial work, satisfactory attendance and performance in such work is required.

Required for postgraduate: Students intending to proceed to BSc(Hons) or MSc should take PHYS 311 and PHYS 312 and two courses from 300-level MATH. Students interested in theoretical or mathematical physics should take PHYS 326. For detailed requirements for Physics and Mathematical Physics, refer to the BSc(Hons) or MSc entries in the Postgraduate section.

Psychology

100-level

Required: PSYC 105 and PSYC 106.

200-level

Required: PSYC 206, and three 15 point courses from PSYC 207-212.

Note: Students who enrolled prior to 2010 may be permitted to major with one course from PSYC 207-212, in which case they will be required to pass a further 200-level or 300-level course to complete the major.

300-level

Required: At least 75 points of 300-level PSYC.

Note: With the permission of the HOD, a student may substitute a 300-level course for one of PSYC 207-212.

Postgraduate degree requirements:

Students wishing to proceed to higher postgraduate degrees in Applied Psychology and Psychology must satisfy the requirements of the BSc degree and have been credited with PSYC 344.

Students intending to apply for the MSc in Applied Psychology must have completed PSYC 336 or an equivalent course and must meet the postgraduate degree requirements above.

Students who wish to become eligible to apply for the Postgraduate Diploma in Clinical Psychology must have completed PSYC 335 or an equivalent course, as well as meet the postgraduate degree requirements above.

Note: Students whose preparatory courses in Psychology were taken prior to 2005 should consult the HOD or a College Academic Advisor before enrolling in further PSYC courses.

Statistics

Major

Students intending to complete the BSc with a major in Statistics must be credited with at least 135 points in Statistics (or from other relevant subjects with the approval of the Head of Department) including at least 105 points at 200-level or above, and the following:

100-level

Required: MATH 103, MATH 109 or MATH 199

200-level

Required: 45 points from STAT 201–294

Required for entry to honours: A further 15 points from STAT201–294 or MATH 201–294 or other approved 200-level course.

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.

Minor

Students intending to complete the BSc with a minor in Statistics must be credited with at least 75 points in Statistics (or from other relevant subjects with the approval of the Head of Department) which must include at least 45 points at 200-level or above.

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

Note: SU2 indicates a November 2010 course start date. See Course Catalogue section for a full list of semester indicators and course start dates.

Accounting

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
ACCT 311	Financial Accounting Theory	15	S1	P: ACCT 211 or ACIS 211 or AFIS 211 R: AFIS 301, ACIS 311, AFIS 311, AFIS 501.

Antarctic Studies

Course Code	Course Title	Pts	2011	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	2011	P/C/R/RP/EQ
ASTR 109	The Cosmos: Birth and Evolution	15	S2	R: PHYS 109, PHYS 110 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 322	Theoretical and Observational Cosmology	15	S2	P: (1) Either (33 points from PHYS 221-224) or PHYS 203 and (PHYS 202 or PHYS 204). (2) MATH 103 or MATH 109 or EMTH 119. R: PHYS 322
ASTR 323	Stellar Structure and Evolution	15	S1	P: 22 points from PHYS 201-204, PHYS 221-PHYS 224, ASTR 211, ASTR 212; (2) MATH 103 or MATH 109 or EMTH 119 R: PHYS 323 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: 22 points from PHYS 201-204, PHYS 221-PHYS 224, ASTR 211, ASTR 212; MATH 103 or MATH 109 or EMTH 119. R: PHYS 325, ASTR 425 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	S1 S2	P: (1) Either (PHYS 282 and 22 points from PHYS 221-224) or (PHYS 285 and 30 points from PHYS 201-204 including either PHYS 202 or PHYS 204). (2) MATH 103 or MATH 109 or EMTH 119. R: PHYS 381 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	2011	P/C/R/RP/EQ
BCHM 202	Molecular Genetics	15	S1	P: (1) BIOL 111; (2) BIOL 112 or BIOL 113 or CHEM 114 or CHEM 112. R: BIOL 230, BIOL 231, ENCH 480 EQ: BIOL 231
BCHM 206	Organic Chemistry	15	S2	P: BCHM 205 or CHEM 212 or CHEM 232 or ENCH 241 R: CHEM 222, CHEM 242, CHEM 262, CHEM 272 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 R: BCHM 205, CHEM 212, CHEM 232, CHEM 222, CHEM 262, ENCH 241 EQ: CHEM 212
BCHM 221	BIOCHEMISTRY A - Biomolecules and their interactions	15	S1	P: (1) BIOL 111 (2) CHEM 112 or CHEM 115 R: BCHM 201, ENCH 323
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	S2	P: BIOL 111 and CHEM 114. R: BIOL 253 RP: CHEM 115 (or CHEM 111 or CHEM 112) EQ: BIOL 253
BCHM 281	Practical Biochemistry	15	S2	P: CHEM 112 or CHEM 115 R: CHEM 281
BCHM 301	Biochemistry 3	30	W	P: (1) BCHM 201; (2) BCHM 202 or BIOL 230 or BIOL 231. R: BIOL 331 EQ: BIOL 331
BCHM 302	Biological Chemistry	30	W	P: Either (1) 22 points from BCHM 205, BCHM 206, CHEM 222, CHEM 232, CHEM 242, CHEM 262, CHEM 272, ENCH 241; or (2) BCHM 201 and either BCHM 205 or CHEM 232 or ENCH 241. R: CHEM 325, ENCH 445 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 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	2011	P/C/R/RP/EQ
BIOL 111	Cellular Biology and Biochemistry	15	S1	
BIOL 112	Ecology, Evolution and Conservation	15	S2	
BIOL 113	Diversity of Life	15	S1	
BIOL 116	Human Biology	15	S2	
BIOL 209	Introduction to Biological Data Analysis	15	S1	P: 30 points 100 level BIOL.
BIOL 210	Vertebrate Biology	15	S2	P: BIOL 112 and BIOL 113
BIOL 211	Insect Biology	15	NO	P: BIOL 112 and BIOL 113
BIOL 212	Marine Biology	15	S1	P: BIOL 112 and BIOL 113
BIOL 213	Microbiology and Genetics	15	S1	P: BIOL 111, BIOL 113 C: BIOL 231 or BCHM 202
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 and one of either BIOL 112, BIOL 113, CHEM 112, or CHEM 114 R: BCHM 202, ENCH 480, BIOL 230 EQ: BCHM 202, ENCH 480
BIOL 250	Principles of Animal Physiology	15	S1	P: BIOL 111
BIOL 251	Exercise and Health	15	S2	P: BIOL 111 or BIOL 116. 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	S2	P: BIOL 111 and 15 pts of CHEM at 100-level. R: BCHM 253 RP: 30 pts of CHEM at 100-level. EQ: BCHM 253
BIOL 254	Plant Developmental Biology	15	S2	P: BIOL 111 R: BIOL 252 RP: CHEM 114
BIOL 255	Plant Ecophysiology	15	S2	P: BIOL 111 R: BIOL 252 RP: CHEM 114
BIOL 270	Ecology	30	S1	P: BIOL 112 and BIOL 113 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: 30 points at 100 level R: BIOL 114
BIOL 303	Forensic Genetics	15	SU1	P: Entry subject to approval from Head of the School of Biological Sciences
BIOL 304	Special Topic	15	NO	P: Entry subject to approval by the Head of School.
BIOL 305	Practical Taxonomy for Field Biologists	15	SU1	P: BIOL 215 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 S2	P: Entry subject to approval by the Head of School.
BIOL 308	Special Topic	30	A 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 Microbiology	30	S2	P: BIOL 213 and BIOL 231 or BCHM 202. For students enrolled before 2010, BIOL 213
BIOL 330	Advanced Concepts in Genetics	30	S1	P: BIOL 213 and BIOL 231 and BIOL 271. For students enrolled before 2010, BIOL 231 and BIOL 232 and BIOL 271
BIOL 331	Biochemistry 3	30	W	P: (1) BCHM 201; (2) BCHM 202 or BIOL 230 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 351	Cell Biology 2	30	S2	P: BIOL 253. Students enrolled before 2010, either (1) BIOL 231 and 232; or (2) BIOL 230 or BIOL 250 or BIOL 252 or BCHM 201.
BIOL 352	Plant Development and Biotechnology	30	S1	P: BIOL 252 or BIOL 254 RP: BIOL 255
BIOL 354	Animal Ecophysiology	15	S2	P: BIOL 250
BIOL 355	Neurones, Hormones and Behaviour	15	S1	P: BIOL 250 RP: BIOL 272
BIOL 371	Evolutionary Ecology	15	S1	P: BIOL 271
BIOL 373	Behavioural Ecology	30	S1	P: (1) Either BIOL 271 or BIOL 272; (2) BIOL 209 or equivalent preparation in statistics.
BIOL 374	Marine Ecosystems	30	S2	P: BIOL 270 and BIOL 209 RP: BIOL 212
BIOL 375	Freshwater Ecosystems	30	S2	P: BIOL 270 and BIOL 209
BIOL 377	Global Change and Biosecurity	30	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 379	Sustaining Native Biodiversity in Primary Production Systems	15	S2	P: (1) BIOL 270 or FORE 202; (2) BIOL 209 or FORE 222/ FORE 224 R: BIOL 376, FORE 430, FORE 444

Biosecurity

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
BIOS 201	Issues in New Zealand Biosecurity	22 (2010) 15 (2011)	SU2 S2	P: (2010) 36 points at 100 level approved by the course co-ordinator. P: (2011) 60 points at 100-level R: BIOS 101

Chemistry

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
CHEM 111	General Chemistry A	15	S1 S2	P: At least 9 NCEA level 3 credits in Chemistry, or CHEM 114, or equivalent preparation approved by Head of Department, Chemistry R: CHEM 113, CHEM 121 EQ: CHEM 113, CHEM 121

CHEM 112	General Chemistry B	15	S2	P: At least 9 NCEA level 3 credits in Chemistry, or CHEM 114, or equivalent preparation approved by Head of Department, Chemistry R: CHEM 115
CHEM 114	Introductory Chemistry	15	S1	R: CHEM 105
CHEM 211	Molecules	15	S1	P: CHEM 111 R: CHEM 231, CHEM 233, CHEM 221, CHEM 223, CHEM 261, CHEM 263
CHEM 212	Chemical Reactivity	15	S1	P: CHEM 112 R: BCHM 205, BCHM 212, CHEM 232, CHEM 222, CHEM 262, ENCH 241 EQ: BCHM 212
CHEM 241	Inorganic Chemistry	15	S2	P: CHEM 211 or CHEM 231
CHEM 242	Organic Chemistry	15	S2	P: CHEM 212 or CHEM 232 or BCHM 212 or BCHM 205 or ENCH 241 R: BCHM 206 EQ: BCHM 206
CHEM 243	Physical Chemistry	15	S2	P: CHEM 111 or CHEM 121
CHEM 281	Practical Chemistry	15	S1 S2	P: CHEM 111 or CHEM 112 R: BCHM 281
CHEM 282	Measurement and Analysis	11	NO	P: (1) CHEM 111 or CHEM 113 or CHEM 121; or (2) CHEM 114 and CHEM 115. R: ENCH 241
CHEM 321	Inorganic and Structural Chemistry	30	W	P: 22 points from CHEM 221, CHEM 231, CHEM 241, CHEM 261, CHEM 271 R: CHEM 361, ENCH 441
CHEM 322	Organic Chemistry	30	W	P: 22 points from BCHM 205, BCHM 206, CHEM 222, CHEM 232, CHEM 242, CHEM 262, CHEM 272, ENCH 241. R: CHEM 362, ENCH 442
CHEM 324	Analytical and Environmental Chemistry	30	W	P: (1) CHEM 223 or CHEM 224 or CHEM 263; or (2) CHEM 233 and either CHEM 243 or CHEM 273 R: ENCH 444
CHEM 325	Biological Chemistry	30	W	P: Either (1) 22 points from BCHM 205 or BCHM 206 or CHEM 222 or CHEM 232 or CHEM 242 or CHEM 262 or CHEM 272 or ENCH 241; or (2) BCHM 201 and either BCHM 205 or CHEM 232 or ENCH 241. R: BCHM 302, ENCH 445 EQ: 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	General Physical Chemistry	15	S1	P: (1) CHEM 223 or CHEM 263; or (2) CHEM 233 and either CHEM 243 or CHEM 273. C: Any single missing pre-requisite may be taken as a co-requisite with the permission of the Head of Department. R: CHEM 323, CHEM 363, ENCH 443, ENCH 446.
CHEM 343	Applied Physical Chemistry	15	S2	P: (1) CHEM 223 or CHEM 263; or (2) CHEM 233 and either CHEM 243 or CHEM 273. C: Any single missing pre-requisite may be taken as a co-requisite with the permission of the Head of Department. R: CHEM 323, ENCH 443.

CHEM 361	Inorganic and Structural Chemistry (Pre-Honours)	30	W	P: (1) 22 points from CHEM 221*, CHEM 231, CHEM 241*, CHEM 261, CHEM 271; and (2) CHEM 281 or BCHM 281. *Entry with this prerequisite only with the permission of the HOD. C: CHEM 381 R: CHEM 321 and ENCH 441
CHEM 362	Organic Chemistry (Pre-Honours)	30	W	P: (1) 22 points from BCHM 205, BCHM 206*, CHEM 222*, CHEM 232, CHEM 242*, CHEM 262, CHEM 272; and (2) CHEM 281 or BCHM 281 *Entry with this prerequisite only with the permission of the HOD C: CHEM 381 R: CHEM 322, ENCH 442
CHEM 373	Chemical Physics (Pre-Honours)	15	S2	P: (1) CHEM 223* or CHEM 263; or (2) CHEM 233 and either CHEM 243* or CHEM 273; and (3) CHEM 282; and (4) 30-36 points from courses in Mathematics, Statistics or ENGR 102. * Entry with this prerequisite only with the approval of the Head of Department. C: Any single missing pre-requisite may be taken as a co-requisite with the permission of the Head of Department. R: CHEM 363, ENCH 446
CHEM 381	Advanced Synthetic Techniques	15	S1	P: CHEM 281 or BCHM 281
CHEM 382	Instrumental Methods	15	S2	P: CHEM 282

Communication Disorders

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
CMDS 111	Introduction to Developmental Communication Disorders	15	S1	R: SPTH 101
CMDS 112	Introduction to Acquired Communication Disorders	15	S2	R: SPTH 101
CMDS 161	Anatomy and Physiology of the Speech and Hearing Mechanism	15	S2	R: CMDS 261.
CMDS 231	Clinical Phonetics	15	S1	
CMDS 242	Introduction to Audiology	15	S1	
CMDS 262	Neurosciences	15	S2	

Computer Science

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
COSC 110	Working in a Digital World	15	S1	
COSC 121	Introduction to Computer Programming	15	S1 S2	R: COSC 123
COSC 122	Introduction to Computer Science	15	S2	R: COSC 112, CMIS 112
COSC 241	Special Topic	11	S2	P: Entry subject to approval by the Head of Department.
COSC 242	Special Topic	11	S1	P: Entry subject to approval by the Head of Department.
COSC 243	Special Topic	11	S2	P: Entry subject to approval by the Head of Department.
COSC 261	Foundations of Computer Science	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 202, COSC 222

COSC 262	Algorithms	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 202, COSC 229, COSC 329
COSC 263	Introduction to Software Engineering	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 205, COSC 224
COSC 264	Data Communications and Networking	15	S2	P: (1) COSC 121; (2) COSC 122; (3) 15 points from Mathematics, Statistics, Engineering Mathematics or MSCI 110. MATH 101 is not acceptable. STAT 101 is strongly recommended. R: COSC 227, COSC 231
COSC 265	Relational Database Systems	15	S2	P: (1) COSC 121 or INFO 125 or ACIS 125; (2) 15 points from Mathematics, Statistics, Engineering Mathematics or MSCI 110. MATH 101 is not acceptable. MATH 120/ STAT 101 are strongly recommended. R: COSC 205, COSC 226
COSC 324	Advanced Software Engineering	15	S1	P: (1) 44 points of 200-level Computer Science including COSC 224 or COSC 205; (2) 30 points from Mathematics, Statistics or Engineering Mathematics or 15 points of MATH/STAT (MATH 120 recommended) and COSC 222. MATH 101 is not acceptable. R: COSC 314 RP: COSC 110, COSC 208
COSC 325	Software Engineering Group Project	30	W	P: (1) 44 points of 200-level Computer Science including COSC 224 or COSC 205; (2) 30 points from Mathematics, Statistics or Engineering Mathematics or 15 points of MATH/STAT (MATH 120 recommended) and COSC 222. MATH 101 is not acceptable. R: COSC 314 RP: COSC 110, COSC 208, COSC 225, COSC 226, COSC 324
COSC 326	Database Management	15	S1	P: (1) 44 points of 200-level Computer Science including COSC 226 (2) 30 points from Mathematics, Statistics or Engineering Mathematics or 15 points of MATH/STAT (MATH 120 recommended) and COSC 222. MATH 101 is not acceptable. RP: COSC 110, COSC 208
COSC 327	Performance Modelling and Simulation	15	S1	P: (1) 44 points of 200-level Computer Science including COSC 227 (2) 30 points from Mathematics, Statistics or Engineering Mathematics or 15 points of MATH/STAT (MATH 120 recommended) and COSC 222. MATH 101 is not acceptable. RP: COSC 110, COSC 208
COSC 329	Algorithms and Artificial Intelligence	15	S1	P: (1) 44 points of 200-level Computer Science including COSC 229 (2) 30 points from Mathematics, Statistics or Engineering Mathematics or 15 points of MATH/STAT (MATH 120 recommended) and COSC 222. MATH 101 is not acceptable. RP: COSC 110, COSC 208

COSC 331	Data Communications and Networks	15	S2	P: (1) 44 points of 200-level Computer Science including COSC 231 (2) 30 points from Mathematics, Statistics or Engineering Mathematics or 15 points of MATH/STAT (MATH 120 recommended) and COSC 222. MATH 101 is not acceptable. RP: COSC 110 and COSC 227. It is recommend that COSC 331 and COSC 332 be taken together, particularly as preparation for students wishing to proceed to post-graduate study and the Post Graduate Diploma in Science: Computer Security and Forensics
COSC 332	Data and Network Security	15	S2	P: COSC students: (1) 44 points (prior to 2011) or 30 pts (2011 onwards) of 200-level Computer Science including COSC 231 or COSC 264; (2) 30 points from Mathematics, Statistics or Engineering Mathematics or 15 points of MATH/STAT (MATH 120 recommended), excluding MATH 101; (3) COSC 222 or COSC 261. ACIS Students: ACIS 333. R: ACIS 323, AFIS 323 RP: It is recommended that COSC 331 and COSC 332 be taken together, particularly as preparation for students wishing to proceed to post-graduate study and the Post Graduate Diploma in Science: Computer Security and Forensics
COSC 361	Microprocessor Systems 1	15	S1	P: (1) 44 points of 200-level Computer Science including COSC 221 and COSC 208, or ENEL 206 (2) 30 points from Mathematics, Statistics or Engineering Mathematics or 15 points of MATH/STAT (MATH 120 recommended) and COSC 222. MATH 101 is not acceptable. R: ELEC 361 RP: COSC 110 EQ: ELEC 361
COSC 363	Computer Graphics	15	S2	P: (1) 44 points of 200-level Computer Science including COSC 208 (2) 30 points from Mathematics, Statistics or Engineering Mathematics or 15 points of MATH/STAT (MATH 120 recommended) and COSC 222. MATH 101 is not acceptable. RP: COSC 110
COSC 364	Special Topic	15	S1	P: Subject to approval by the Head of Department.
COSC 365	Web Computing	15	S2	P: (1) 44 points of 200-level Computer Science including COSC 208 and COSC 226 (2) 30 points from Mathematics, Statistics or Engineering Mathematics or 15 points of MATH/STAT (MATH 120 recommended) and COSC 222. MATH 101 is not acceptable. RP: COSC 222, COSC 324, COSC 326
COSC 366	Research Project	15	SU2	P: (1) 44 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 222. MATH 101 is not acceptable. (3) approval of Head of Department RP: COSC 110, COSC 208, COSC 225, COSC 226, COSC 324
COSC 367	Special Topic	15	S2	P: Entry subject to approval by the Head of Department.

Economics

Course Code	Course Title	Pts	2011	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 201	Intermediate Macroeconomics with Calculus	15	S2	P: ECON 104, ECON 105. C: MATH 102 R: ECON 206 RP: STAT 101
ECON 202	Intermediate Microeconomics with Calculus I	15	S1	P: ECON 104. C: MATH 102 R: ECON 207, ECON 208, ECON 230 and ECON 231.
ECON 203	Intermediate Microeconomics with Calculus II	15	S2	P: ECON 202 R: ECON 207, ECON 208, and ECON 230 RP: STAT 101
ECON 206	Intermediate Macroeconomics	15	S2	P: ECON 104 and ECON 105 R: ECON 201
ECON 207	Intermediate Microeconomics I	15	S1	P: ECON 104 R: ECON 202, ECON 203, ECON 230, ECON 231
ECON 208	Intermediate Microeconomics II	15	S2	P: ECON 202 or ECON 207 R: ECON 203, ECON 230, and ECON 231
ECON 212	Economic Statistics	15	S1	P: (1) ECON 104 or ECON 105 (2) 15 points from STAT courses or MSCI 110
ECON 213	Introduction to Econometrics	15	S2	P: (1) ECON 104 or ECON 105 (2) 15 points from STAT courses or ECON 212.
ECON 222	International Trade	15	S1	P: ECON 104 R: ECON 209
ECON 223	Introduction to Game Theory for Business, Science and Politics	15	S1	P: Any 105 points from the BA, BCom, BForSc, BSc or LLB schedules
ECON 224	Economics and Current Policy Issues	15	S2	P: ECON 104
ECON 225	Environmental Economics	15	S1	P: ECON 104
ECON 321	Microeconomic Analysis	15	S1	P: (1) ECON 230 or ECON 202 or ECON 207. (2) MATH 108 or MATH 102 OR MATH 199; (3) 15 points from STAT courses or ECON 212
ECON 322	Game Theory	15	S2	P: (1) ECON 230 or ECON 231 or ECON 202 or ECON 207; (2) MATH 108 or MATH 102 OR MATH 199; (3) 15 points from STAT courses or ECON 212 RP: ECON 203 or ECON 208
ECON 323	Econometrics I	15	S1	P: P: (1) ECON 213 or (STAT 212 and STAT 214) or STAT 213; (2) MATH 108 or MATH 102 or MATH 199 R: FINC 323 EQ: FINC 323
ECON 324	Econometrics II	15	S2	P: ECON 323 or FINC 323
ECON 325	Macroeconomic Analysis	15	S1	P: (1) ECON 201 or ECON 206; (2) MATH 108 or MATH 102 or MATH 199. RP: ECON 230 or ECON 231 or ECON 202 or ECON 207
ECON 326	Monetary Economics	15	S2	P: (1) ECON 201 or ECON 206; (2) MATH 108 or MATH 102 or MATH 199 RP: ECON 230 or ECON 231 or ECON 202 or ECON 207
ECON 327	Economic Analysis of Law	15	S2	P: ECON 230 or ECON 231 or ECON 203 or ECON 208.
ECON 328	Topics in Law and Economics	15	NO	P: ECON 230 or ECON 231 or ECON 203 or ECON 208.
ECON 329	Industrial Organisation	15	S1	P: ECON 230 or ECON 231 or ECON 202 or ECON 207.

ECON 330	Strategic Behaviour of Firms	15	S2	P: ECON 230 or ECON 231 or ECON 203 or ECON 208.
ECON 331	Financial Economics	15	S2	P: ECON 230 or any two of (ECON 202, ECON 203, FINC 201 or FINC 205). R: FINC 331 RP: MATH 103 EQ: FINC 331
ECON 333	Experimental and Behavioural Economics	15	S2	P: ECON 230 or ECON 231 or ECON 202 or ECON 207
ECON 334	Labour Economics	15	S2	P: ECON 230 or ECON 231 or ECON 202 or ECON 207. RP: ECON 203 or ECON 208
ECON 335	Public Economics 1	15	NO	P: ECON 203 or ECON 208.
ECON 336	Public Choice	15	NO	P: ECON 230 or ECON 231 or ECON 203 or ECON 208. RP: ENGL 117 or an essay-based course.
ECON 337	Economic Evaluation in Health	15	S1	P: ECON 230 or ECON 231 or ECON 203 or ECON 208. RP: ENGL 117 or an essay-based course.
ECON 338	Health Economics Overview	15	NO	P: ECON 230 or ECON 231 or ECON 203 or ECON 208.
ECON 339	The Economics of European Integration	15	S1	P: Any 105 points from the BA, BCom, BForSc, BSc or LLB schedules including ECON 104 and ECON 105 and at least 22 points above 100 level. RP: ENGL 117 or an essay-based course.
ECON 342	Cliometrics	15	NO	P: ECON 213
ECON 343	Economic Analysis of Intellectual Property	15	S1	P: ECON 230 or ECON 231 or ECON 203 or ECON 208. RP: MATH 102 or MATH 199 or MATH 108
ECON 344	International Finance	15	S2	P: ECON 201 or ECON 206 or FINC 203 R: ECON 210 and FINC 315 and FINC 344 EQ: FINC 344

Electronics

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
ELEC 201	Fundamentals of Electronics	15	NO	P: (1) PHYS 102 or PHYS 114 (2) MATH 102 or EMTH 118 or MATH 108. 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. R: ELEC 227, ENME 339
ELEC 202	Analogue and Digital Electronics	15	NO	P: (1) PHYS 102 or PHYS 114 (2) MATH 102 or EMTH 118 or MATH 108. 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. R: ELEC 225, ELEC 226, PHYS 225, PHYS 226, PHYS 286 EQ: PHYS 286
ELEC 312	Applied Electromagnetism	15	S2	P: (1) PHYS 202 or PHYS 224 or ENEL 204; (2) MATH 103 or MATH 109 or EMTH 119 R: PHYS 312 EQ: PHYS 312
ELEC 321	Electronics Design	15	S1	P: (1) ELEC 201 and ELEC 202 or ELEC 225 and ELEC 226; (2) MATH 103 or MATH 109 or equivalent; (3) COSC 208
ELEC 322	Industrial Electronics	15	NO	P: (1) ELEC 201 and ELEC 202 or ELEC 225 and ELEC 226; (2) MATH 103 or MATH 109 or equivalent
ELEC 323	Instrumentation	15	S2	P: (1) ELEC 201 and ELEC 202 or ELEC 226 and ELEC 227; (2) MATH 103 or MATH 109 or equivalent R: PHYS 319

ELEC 325	Special Topic	15	S1	P: Entry by permission of the Head of Department of Physics and Astronomy.
ELEC 326	Special Topic	15	S2	P: Entry by permission of the Head of Department of Physics and Astronomy.
ELEC 361	Microprocessor Systems 1	15	S1	P: (1) ELEC 202 or ELEC 226; (2) MATH 103 or MATH 109 or equivalent R: COSC 361 EQ: COSC 361
ELEC 381	Advanced Electronics Design Laboratory	15	S1 S2	P: (1) 28 points from ELEC 300, including ELEC 321; (2) COSC 208

Engineering

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
ENCE 260	Computer Systems	15	S2	P: COSC 121, COSC 122 and 15pt of Mathematics or Statistics or MSCI 110; or subject to the approval of the Dean of Engineering and Forestry R: ENEL 206; both COSC 208/ENCE 208 and COSC 221/ ENCE 221
ENGR 101	Foundations of Engineering	15	S1	
ENGR 102	Engineering Mechanics and Materials	15	S2	P: EMTH 118 C: EMTH 119, PHYS 101

Finance

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
FINC 201	Business Finance	15	S1	P: ACCT 102, STAT 101 or MSCI 110, plus at least 45 additional 100-level 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	S2	P: STAT 101 or MSCI 110, plus at least 60 additional 100-level points from the BCom or BSC schedules. R: AFIS 214 RP: Students without a mathematics background equivalent to NCEA Level 2 should pass MATH 101 before enrolling in this course. EQ: AFIS 214
FINC 205	Personal Finance with Mathematics	15	S1	P: (1) MATH 102 or MATH 108 or equivalent; (2) STAT 101 or MSCI 110 or equivalent.
FINC 301	Corporate Finance Theory and Policy	15	S2	P: FINC 201, FINC 203, MATH 101 or MATH 102 R: FINC 354, AFIS 304
FINC 302	Applied Corporate Finance	15	S2	P: FINC 201, FINC 203, MATH 101 or MATH 102
FINC 305	Financial Modelling	15	S1	P: FINC 201, FINC 203, MATH 101 OR MATH 102
FINC 308	Applied Financial Analysis and Valuation	15	S2	P: FINC 201, FINC 203 R: FINC 394 and AFIS 314
FINC 311	Investments	15	S1	P: FINC 201, FINC 203, MATH 101 OR MATH 102 R: FINC 364, AFIS 314
FINC 312	Derivative Securities	15	S1	P: (1) FINC 203: and (2) MATH 102 RP: FINC 201 and FINC 205
FINC 316	Special Topic	15	NO	P: Subject to approval by the Head of Department

FINC 323	Econometrics I	15	S1	P: (1) ECON 213 or (STAT 212 and STAT 214) or STAT 213; (2) MATH 102 or MATH 108. R: ECON 323 EQ: ECON 323
FINC 331	Financial Economics	15	S2	P: ECON 230 or any two of (ECON 202, ECON 203, FINC 201, FINC 205). R: ECON 331 RP: MATH 103 EQ: ECON 331
FINC 344	International Finance	15	S2	P: ECON 201 or ECON 206 or FINC 203 R: FINC 315, ECON 344, ECON 210 EQ: ECON 344

Forestry

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
FORE 102	Forests and Societies	15	S1 S2	P: HOD 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 112, or BIOL 113, or Subject to approval Chair Board of Studies R: BIOL 270, FORE 202, FORE 218
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

Freshwater Management

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
WATR 201	Freshwater Resources	15	S2	P: Any 75 points at 100 level

Geography

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
GEOG 106	Global Environmental Change	15	S1	R: GEOG 103
GEOG 107	Sustainable Cities: Environmental and Social Perspectives on Global Urbanisation	15	S1	R: GEOG 103
GEOG 108	Resources and Sustainability	15	S2	R: GEOG 103
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 Urban 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	S2	P: Any 30 points of 100 level geography, or entry with the approval of the Head of Department.
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 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 212	Geographies of Development	15	S2	P: Any 30 points of 100-level geography, or entry with the approval of the Head of Department. R: CULT 212 EQ: CULT 212
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: GEOG 203, EURO 223 EQ: EURO 223
GEOG 305	Environmental Hazards and Management	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	Glacial Processes	15	S2	P: 30 points of 200-level Geography, including GEOG 201, or in special cases with approval of the Head of Department.
GEOG 313	Remote Sensing Data for Geographic Analysis	15	S1	P: 30 points of 200-level Geography, including GEOG 205, or in special cases with approval of the Head of Department.
GEOG 320	Space, Place and Power	30	S2	P: 30 points of 200 level Geography, including GEOG 202 or GEOG 212, or entry with the 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 310 EQ: EURO 310
GEOG 322	Geography of Health	30	S1	P: 30 points of 200-level Geography, 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	SU1	P: 30 points of 200 level Geography, including GEOG 201, or in special cases with approval of the Head of Department.
GEOG 343	Independent Course of Study	15	NO	P: Subject to approval of the Head of Department.

Geology

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
GEOL 111	Planet Earth: An Introduction to Geology	15	S1	R: ENCI 271
GEOL 112	Understanding Earth History	15	S2	R: ENCI 271 RP: GEOL 111

GEOL 113	Environmental Geohazards	15	S2	
GEOL 237	Special Topic	15	S1	P: Entry subject to HOD approval.
GEOL 240	Field Studies A - Mapping	15	S1	P: GEOL 111 and GEOL 112, or, with a B+ average, or a standard acceptable to the HOD, GEOL 113 may be substituted for GEOL 111 or 112. C: 15 points from any of GEOL 242-245 offered in the same semester R: GEOL 230
GEOL 241	Field Studies B - Field Techniques	15	S2	P: GEOL 111 and GEOL 112, or, with a B+ average, or a standard acceptable to the HOD, GEOL 113 may be substituted for GEOL 111 or 112. C: 15 points from any of GEOL 242-245 offered in the same semester R: GEOL 231
GEOL 242	Rocks, Minerals and Ores	15	S1	P: GEOL 111 and GEOL 112. With a B+ average, or a standard acceptable to the HOD, GEOL 113 may be substituted for GEOL 112. R: GEOL 232, GEOL 238
GEOL 243	Depositional Environments and Stratigraphy	15	S1	P: GEOL 111 and GEOL 112. With a B+ average, or a standard acceptable to the HOD, GEOL 113 may be substituted for GEOL 112. R: GEOL 234, GEOL 235
GEOL 244	Structural Geology and Global Geophysics	15	S2	P: GEOL 111 and GEOL 112, or, with a B+ average, or a standard acceptable to the HOD, GEOL 113 may be substituted for GEOL 111 or GEOL 112. R: GEOL 233, GEOL 236
GEOL 245	Earth System Science	15	S2	P: GEOL 111 and GEOL 112, or, with a B+ average, or a standard acceptable to the HOD, GEOL 113 may be substituted for GEOL 111 or 112. In addition 15 points from GEOG, BIOL, CHEM or MATH 100 courses. R: GEOL 234 RP: 100-level MATH course is strongly recommended.
GEOL 251	Special Topic: Structure and Geochronology	15	S2	P: (1) GEOL 111 and GEOL 112. With a B+ average, or a standard acceptable to the HOD, GEOL 113 may be substituted for GEOL 111 or GEOL 112. (2) Entry is subject to approval by the Hed of Department Geological Sciences. R: GEOL 244, GEOL 245, GEOL 233, GEOL 234
GEOL 331	Principles of Basin Analysis	15	S1	P: GEOL 243 and an additional 15 points from GEOL 242-245. RP: GEOL 242 or GEOL 244.
GEOL 334	Tectonics and the New Zealand continent	15	S1	P: GEOL 240, GEOL 241, and GEOL 244. C: Recommended GEOL 351, GEOL 352
GEOL 336	Magmatic Systems and Volcanology	15	S2	P: GEOL 232 or GEOL 242 plus one additional course from GEOL 233 GEOL 238 or GEOL 243-GEOL 245.
GEOL 337	Exploration and Mining Geology	15	S1	P: GEOL 242 and 15 points from GEOL 243-245.
GEOL 338	Engineering and Environmental Geology	15	S2	P: GEOL 242 and 15 points from GEOL 243-245
GEOL 339	Special Topic	15	S1	P: 30 points from GEOL 242-245 and approval of HOD
GEOL 340	Special Topic	15	S2	P: 30 points from GEOL 242-245 and approval of HOD
GEOL 342	Special Topic	15	S1	P: Entry subject to Head of Department approval.
GEOL 343	Special Topic	15	NO	P: Entry subject to Head of Department approval. EQ: GEOL 343

GEOL 351	Advanced Field Techniques	15	S1	P: (1) GEOL 230 or GEOL 240 (2) GEOL 231 or GEOL 241 (3) 44-45 points from other GEOL 200-level courses. C: 15 points from GEOL 331-338 offered in the same semester.
GEOL 352	Advanced Field Mapping	15	X	P: (1) GEOL 230 or GEOL 240; (2) GEOL 231 or GEOL 241; (3) 44-45 points from other GEOL 200-level courses. C: 15 points from GEOL 331-338 offered in the same semester. R: GEOL 329, GEOL 330
GEOL 353	Palaeoclimate and Quaternary Science	15	S2	P: GEOL 243 and an additional 15 points from GEOL 242-245. RP: GEOL 245
GEOL 354	Geodynamics and Geohazards	15	S2	P: 45 points from GEOL 240-245
GEOL 355	Water and Geothermal Systems	15	S2	P: 15 points from GEOL 242-245
GEOL 356	Field-focused Research Methods	15	S1	P: A major in Geological Sciences and enrolment in the Frontiers Abroad programme. R: GEOL 230-231, GEOL 240-241, GEOL 351-352. Not open to students enrolled in a UC degree programme

Health Sciences

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
HLTH 101	Introduction to Health Studies	15	S2	
HLTH 201	Health Promotion	30	S1	P: HLTH 101 or any 45 points
HLTH 301	Evidence in Health	30	S2	P: HLTH 201 or any 45 points at 200 level

History and Philosophy of Science

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
HAPS 110	Science: Good, Bad, and Bogus	15	NO	R: PHIL 110 EQ: PHIL 110
HAPS 210	History of Science	15	NO	P: 15 points in HAPS, HIST or PHIL, or 30 points in any subject/s R: PHIL 237, PHIL 257, HAPS 101, HAPS 201, HAPS 202, HAPS 302.
HAPS 310	Philosophy of Science	15	NO	P: HAPS 210 or 30 points above 100 level in PHIL or 135 points in any subject/s and the approval of a HAPS coordinator. R: PHIL 237, PHIL 257, HAPS 101, HAPS 201, HAPS 202, HAPS 302.

Linguistics

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
LING 101	The English Language	15	S1	R: ENGL 123, ENGL 112, LING 111
LING 102	Language and Society	15	S2	R: ENGL 323
LING 215	Articulatory and Acoustic Phonetics	15	S1	P: LING 101 or LING 111 or ENGL 123 or ENGL 112 R: LING 201, LING 211, LING 207, CMDS 231
LING 216	Phonology and Morphology	15	S2	P: LING 101 or LING 111 or ENGL 123 or ENGL 112 R: LING 201, LING 211, LING 207, LING 302
LING 217	Syntax	15	S1	P: LING 101 or LING 111 or ENGL 123 or ENGL 112 R: LING 201, LING 206, LING 211

LING 218	Formal Semantics	15	S2	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	S2	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 HOD. 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 304	Historical Linguistics	30	S1	P: LING 201 or LING 211 or LING 206 or LING 207 or LING 215 or LING 216 or LING 217
LING 306	Topics in Syntactic Theory	30	S2	P: LING 201 or LING 206 or LING 211 or LING 217 R: LING 301, LING 311
LING 307	Topics in Phonetics and Phonology	30	S2	P: LING 201 or LING 207 or LING 211 or LING 215 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 R: LING 302
LING 310	Variationist Sociolinguistics	30	S2	P: LING 206 or LING 207 or any two of LING 215-LING 217 R: LING 203, LING 303

Management Science

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
MSCI 101	Management Science	15	S2	R: MSCI 102, MSCI 112
MSCI 110	Quantitative Methods for Business	15	S1 S2	R: STAT 111, STAT 112, STAT 101
MSCI 201	Planning Methods for Management	15	S1	P: 15 points of MSCI, STAT or MATH. R: MSCI 204 RP: MSCI 101, MGMT 100
MSCI 202	Business Forecasting and Simulation	15	S2	P: MSCI 110 or 15 points STAT. R: MSCI 204 RP: MSCI 101
MSCI 203	Optimisation for Business	15	S2	P: 30 points from MSCI and/or MATH. R: MSCI 216 RP: MSCI 201 or MSCI 204
MSCI 210	Statistical Methods for Management	11	NO	P: (1) MSCI 110 or 15 points of STAT; (2) 9 points from MSCI or MGMT or MATH 102, MATH 103, MATH 108, MATH 109, MATH 170 or MATH 171 R: MSCI 202
MSCI 270	Introduction to Operations and Supply Chain Management	15	S1	P: (1) MSCI 101 or MGMT 100 or MGMT 101 (2) MSCI 110 or 15 points STAT R: MSCI 220, MGMT 270 EQ: MGMT 270
MSCI 271	Operations Management Processes	15	S2	P: (1) MSCI 101 or MGMT 100 or MGMT 101 (2) MSCI 110 or 15 points STAT. R: MSCI 221, MGMT 271 RP: MGMT 270 or MSCI 270 EQ: MGMT 271
MSCI 280	Statistical Methods for Management	15	S1	P: (1) MSCI 110 or 15 points STAT (2) 15 points of MSCI or MGMT or MATH or MKTG R: MSCI 210, MGMT 280, MKTG 280 EQ: MGMT 280, MKTG 280

MSCI 301	Optimisation Models and Methods	30	S1	P: (1) MSCI 201 or MSCI 204 or MSCI 215; (2) MSCI 203 or MSCI 216; R: MSCI 315, MSCI 316 RP: MATH 203, MATH 251, MATH 252 or MATH 254.
MSCI 302	Probabilistic Operations Research Models	30	S2	P: (1) MSCI 202 or MSCI 204; (2) MSCI 210 or MSCI 280 or MGMT 280 or MKTG 280 or 30 points of 200-level courses in STAT. R: MSCI 310, MSCI 311, MSCI 312
MSCI 340	Special Topic	15	NO	P: Subject to the approval of the Head of Department.
MSCI 370	Strategic Operations and Supply Chain Management	15	S1	P: (1) MSCI 220 or MSCI 270 or MGMT 270; (2) 22 points 200-level from MSCI, MGMT, ACIS or AFIS. R: MSCI 320, MGMT 370 RP: MSCI 221 or MSCI 271 or MGMT 271 EQ: MGMT 370
MSCI 371	Materials, Logistics and Supply Chain Management	15	S1	P: (1) MSCI 220 or MSCI 270 or MGMT 270; (2) MSCI 221 or MSCI 271 or MGMT 271 R: MSCI 321, MGMT 371 EQ: MGMT 371
MSCI 372	Project Management	15	S2	P: (1) (MSCI 220 or MSCI 270 or MGMT 270), (MSCI 221 or MSCI 271 or MGMT 271) and 22 points from Commerce; Or (2) 88 points at 200-level from Commerce, Science or Engineering. R: MSCI 322, MSCI 324, MGMT 372, AFIS 313, ACIS 313, INFO 313 EQ: MGMT 372
MSCI 373	Quality Management	15	S2	P: (1) MSCI 220 or MSCI 270 or MGMT 270; (2) MSCI 221 or MSCI 271 or MGMT 271 R: MSCI 323, MGMT 373 EQ: MGMT 373

Mathematics

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
MATH 101	Methods of Mathematics	15	S1	R: MATH 102, MATH 103, MATH 108, MATH 109, MATH 170, MATH 171, MATH 199, EMTH 118, EMTH 119, EMTH 171. Students may not enrol concurrently with, or after obtaining a pass, in these courses.
MATH 102	Mathematics 1A	15	S1 S2	R: MATH 108, MATH 199, EMTH 118
MATH 103	Mathematics 1B	15	S1 S2	P: MATH 102 or MATH 108 or EMTH 118 R: MATH 109, MATH 199, EMTH 119
MATH 120	Discrete Mathematics	15	S1	R: MATH 115
MATH 130	Introduction to Logic & Computability	15	S2	R: MATH 134, PHIL 134, PHIL 138
MATH 170	Mathematical Modelling and Computation	15	S2	R: MATH 171, EMTH 171 RP: MATH 109 or MATH 103 (prior or concurrent enrolment recommended)
MATH 199	AIMS - Advancing in Mathematical Sciences	30	X	P: Subject to approval of the Head of Department. R: MATH 102, MATH 103, MATH 108, MATH 109, EMTH 118, EMTH 119
MATH 201	Mathematics 2	15	S1	P: MATH 103 or MATH 109 or MATH 199 or EMTH 119 R: MATH 261, MATH 264, EMTH 202, EMTH 204, EMTH 210
MATH 202	Differential Equations and Vector Calculus	15	S2	P: MATH 201 or EMTH 210 R: MATH 262, MATH 264, EMTH 202, EMTH 204

MATH 203	Linear Algebra	15	S2	P: MATH 201 or EMTH 210 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 108, MATH 109, MATH 115, MATH 120, MATH 199, EMTH 118 or EMTH 119. R: MATH 221, MATH 231
MATH 230	Logic, Automata, and Computability	15	S2	P: 30 points from MATH 100-199 excluding MATH 101; or with permission of the Head of Department R: MATH 208, MATH 308, PHIL 208, PHIL 308, PHIL 225, PHIL 246, PHIL 346
MATH 240	Analysis and Groups	15	S1	P: MATH 103, MATH 109, MATH 199 or EMTH 119 R: MATH 222, MATH 243
MATH 270	Mathematical Modelling and Computation 2	15	S2	P: (MATH 170 or MATH 171 or EMTH 171 or MATH 280 or MATH 282) AND (EMTH 119 or MATH 103 or MATH 109 or MATH 199) R: EMTH 271, MATH 271
MATH 280	Introduction to Scientific Computation	15	NO	P: MATH 103, MATH 109, MATH 199 or EMTH 119 R: MATH 281, MATH 282
MATH 301	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 Department.
MATH 321	Fields and Commutative Rings	15	S1	P: MATH 220, MATH 221, MATH 222, MATH 240 or (MATH 203, MATH 254, EMTH 204 or EMTH 211 with HOD permission) and a further 15 points from MATH 201-294 R: MATH 311
MATH 322	Group Theory	15	NO	P: MATH 222, MATH 240 or (MATH 203, MATH 220, MATH 221, MATH 254, EMTH 204 or EMTH 211 with HOD permission) and a further 15 points from MATH 201-294
MATH 324	Cryptography 2	15	S2	P: MATH 221 and a further 11 points from MATH 210-299 R: MATH 391
MATH 333	Coding Theory	15	S1	P: 22 points from MATH 221, MATH 222, MATH 231, MATH 251, MATH 252, MATH 254, EMTH 203, EMTH 204 or 22 points at 200 level Maths with HOD approval.
MATH 334	Combinatorics	15	S2	P: 22 points from MATH 221, MATH 222, MATH 231, MATH 251, MATH 252, MATH 254, EMTH 203, EMTH 204 or 22 points at 200 level Maths with HOD approval.
MATH 335	Computability Theory	15	NO	P: COSC 222 or PHIL 246 or 22 points in MATH or EMTH at 200 level, as approved by the Head of Department.
MATH 336	Foundations of Mathematics	15	S2	P: 22 points from MATH 221-282 or EMTH 200-204 or EMTH 210-271; or approval of HOD.
MATH 342	Applications of Complex Variables	15	S2	P: MATH 264 or EMTH 204 or (MATH 261 and MATH 262) or EMTH 202 or MATH 243.
MATH 343	Metric, Normed and Hilbert Spaces	15	S1	P: MATH 243, MATH 254, MATH 264, EMTH 202 or EMTH 204 or 22 points from 200-level MATH with Head of Department approval.
MATH 352	Applied Matrix Algebra A	15	S1	P: (MATH 251 and MATH 252), MATH 254, EMTH 203 or EMTH 204 R: EMTH 412
MATH 353	Applied Matrix Algebra B	15	S2	P: Either MATH 252 or MATH 254 or EMTH 203 or EMTH 204. R: EMTH 414 RP: (MATH 251 or MATH 352) and (MATH 271, MATH 280, MATH 281 or MATH 282)

MATH 361	Partial Differential Equations	15	S1	P: (MATH 261 and MATH 262), MATH 264, EMTH 202 or EMTH 204 R: EMTH 391, EMTH 413
MATH 363	Dynamical Systems	15	S2	P: MATH 264 or (MATH 261 and MATH 262) or EMTH 202 or EMTH 204 R: EMTH 415 RP: MATH 252 or MATH 254
MATH 371	Vector Calculus and Modelling	15	S1	P: MATH 264, MATH 261, EMTH 202 or EMTH 204.
MATH 376	Applied Stochastic Modelling	15	NO	P: (11 points from STAT 212, STAT 214, STAT 216 and a further 11 points from STAT 210-299) and (MATH 109 or MATH 199) EQ: STAT 316
MATH 381	Advanced Scientific Computing	15	NO	P: MATH 261, MATH 262, MATH 264, EMTH 202, EMTH 204, MATH 271 or MATH 282
MATH 391	Special Topic	15	S1	P: HOD approval
MATH 392	Special Topic	15	S2	P: Head of Department approval
MATH 393	Independent Course of Study	15	S1	P: HOD approval
MATH 394	Independent Course of Study	15	S2	P: HOD approval
MATH 395	Mathematics Project	15	SU2	P: 44 points from MATH 210-299, and approval of Head of Department R: MATH 305

Philosophy

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
PHIL 110	Science: Good, Bad, and Bogus	15	S1	R: HAPS 110 EQ: HAPS 110
PHIL 132	God, Mind, and Freedom	15	S2	R: PHIL 138 (prior to 2006)
PHIL 133	Philosophy and Human Nature	15	S1	
PHIL 137	Computers, Minds and Logic	15	NO	
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	S2	R: PHIL 136
PHIL 208	Logic A	15	NO	P: Any 15 points in Philosophy or Mathematics or Computer Science or Linguistics. 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 220	Darwin's Dangerous Idea	15	NO	P: 15 points in PHIL or 30 points in any schedule.
PHIL 224	Greek Philosophy	15	S1	P: 15 points in PHIL, or B average in 60 points of appropriate courses wih approval of the Programme Coordinator. R: CLAS 224, CLAS 324 EQ: CLAS 224
PHIL 229	Philosophy of Religion: Rationality, Science, and the God Hypothesis	15	S1	P: At least 15 points in Philosophy or Religious Studies. Students without this prerequisite but with at least 60 points in appropriate subjects may be admitted with the approval of the Programme Coordinator. R: RELS 210, PHIL 318

PHIL 233	Epistemology and Metaphysics	15	S1	P: 15 points in PHIL or B average in 60 points of appropriate courses with approval of the Programme Coordinator.
PHIL 235	Cyberspace, Cyborgs, and the Meaning of Life	15	S2	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 Programme Coordinator.
PHIL 236	Ethics	15	S2	P: 15 points in PHIL or B average in 60 points of appropriate courses with approval of the Programme Coordinator. R: PHIL 321
PHIL 238	Cognitive Science	15	NO	P: 15 points in PHIL, or 15 points in an appropriate science subject with the approval of the PHIL Programme Coordinator.
PHIL 240	Bioethics: Life, Death, and Medicine	15	NO	P: 15 points in PHIL or a B average in 60 points in relevant subjects, (eg PAMS, ZOOL, POLS, ECON, SPTH, LAWS, CMDS) as approved by the Programme Coordinator. R: PHIL 324
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	NO	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 251	Formal Semantics	15	NO	R: LING 202, LING 218 EQ: LING 218
PHIL 305	Philosophical Logic	30	S2	P: Any 15 points at 200 level in Philosophy or Mathematics or Computer Science courses as approved by the Head of School. R: PHIL 315
PHIL 308	Logic A	15	NO	P: Any 15 points at 200 level in Philosophy or Mathematics or Computer Science or Engineering Mathematics. 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	Early Modern Philosophy	30	S1	P: 45 points in PHIL, at least 30 at 200 level
PHIL 311	Recent and Contemporary Philosophy	30	S2	P: 45 points in PHIL, at least 30 at 200 level. R: PHIL 464 (from 2006)
PHIL 314	Greek Philosophy	30	S1	P: 45 points in PHIL, at least 30at 200 level including PHIL 233 (INCO 219 may be substituted for any course except PHIL 233), AND permission of the programme coordinator. 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 Programme Coordinator. R: POLS 301 EQ: 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	S1	P: 45 points in Philosophy, at least 30 at 200 level with approval of the Head of School. R: HLTH 407

Physics

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
PHYS 101	Engineering Physics A: Mechanics, Waves and Thermal Physics	15	S1 S2	P: PHYS 111 or 14 credits NCEA Level 3 Physics and 14 credits NCEA Level 3 Mathematics with Calculus. These prerequisites may be replaced by other background as approved by the Head of Department. 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. R: PHYS 114, PHYS 115 RP: These prerequisites may be replaced by other background as approved by Head of Department EQ: PHYS 114
PHYS 109	The Cosmos: Birth and Evolution	15	S2	R: ASTR 109, PHYS 110 EQ: ASTR 109
PHYS 111	Introductory Physics for Physical Sciences and Engineering	15	S1	R: PHYS 106. 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 201	Waves and Optics	15	S1	P: (1) PHYS 101; (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 221 RP: (1) PHYS 102; (2) MATH 103 or EMTH 119.
PHYS 202	Electromagnetism and Mechanics	15	S2	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 224 RP: MATH 103 or EMTH 119.
PHYS 203	Relativistic and Quantum Physics	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 222 RP: MATH 103 or EMTH 119.
PHYS 204	Thermal, Statistical and Particle Physics	15	S2	P: (1) PHYS 203; (2) MATH 103 or EMTH 119. R: PHYS 310 RP: MATH 201

PHYS 285	Experimental Physics	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 286	Analogue and Digital Electronics	15	S2	P: (1) PHYS 102 or PHYS 114 (2) MATH 102 or EMTH 118 or MATH 108. 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. R: ELEC 202 EQ: ELEC 202
PHYS 310	Thermal Statistical and Particle Physics	15	S2	P: (1) 22 points from PHYS 221-PHYS 224; (2) MATH 103 or MATH 109 or equivalent. R: PHYS 204
PHYS 311	Quantum Mechanics	15	S1	P: (1) PHYS 203 or PHYS 222; (2) MATH 103 or MATH 109 or EMTH 119.
PHYS 312	Applied Electromagnetism	15	S2	P: (1) PHYS 202 or PHYS 224; (2) MATH 103 or MATH 109 or EMTH 119 R: ELEC 312 EQ: ELEC 312
PHYS 314	Condensed Matter Physics	15	S2	P: (1) PHYS 203 or PHYS 222; (2) MATH 103 or MATH 109 or EMTH 119
PHYS 316	Geophysical Fluid Dynamics	15	S1	P: (1) One of PHYS 201, PHYS 202, PHYS 203, PHYS 221, PHYS 223, PHYS 224; (2) MATH 103 or MATH 109 or EMTH 119.
PHYS 322	Theoretical and Observational Cosmology	15	S2	P: (1) Either (33 points from PHYS 221-224) or PHYS 203 and (PHYS 202 or PHYS 204). (2) MATH 103 or MATH 109 or EMTH 119. R: ASTR 322 EQ: ASTR 322
PHYS 323	Stellar Structure and Evolution	15	S1	P: (1) 22 points from PHYS 201-204, PHYS 221-PHYS 224, ASTR 211, ASTR 212; (2) MATH 103 or MATH 109 or EMTH 119 R: ASTR 323 EQ: ASTR 323
PHYS 325	The Structure and Evolution of Galaxies	15	NO	P: 22 points from PHYS 201-204, PHYS 221-PHYS 224, ASTR 211, ASTR 212; MATH 103 or MATH 109 or EMTH 119. R: ASTR 325, ASTR 425 EQ: ASTR 325
PHYS 326	Classical Mechanics and Symmetry Principles	15	S1	P: P: (1) (PHYS 203 or PHYS 223) and (PHYS 202 or PHYS 204 or PHYS 222 or PHYS 224); (2) MATH 201 or MATH 261 or MATH 264
PHYS 327	Special Topic	15	S1	P: (1) HOD approval; (2) MATH 103 or MATH 109 or equivalent.
PHYS 328	Special Topic	15	S2	P: (1) HOD approval; (2) MATH 103 or MATH 109 or equivalent.
PHYS 329	Special Topic	15	S1	P: (1) HOD approval; (2) MATH 103 or MATH 109 or equivalent.

PHYS 381	Advanced Experimental Physics and Astronomy	15	S1 S2	P: (1) Either (PHYS 282 and 22 points from PHYS 221-224) or (PHYS 285 and 30 points from PHYS 201-204 including either PHYS 202 or PHYS 204). (2) MATH 103 or MATH 109 or EMTH 119. R: ASTR 381 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 R: PHYS 392, PHYS 393

Psychology

Course Code	Course Title	Pts	2011	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: PSYC 105 and PSYC 106
PSYC 207	Developmental Psychology	15	S1	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 HOD, a pass in a professional year of Engineering, or in approved courses in Computer Science, Linguistics, or Philosophy
PSYC 209	Sensation and Perception	15	S2	P: PSYC 104, or PSYC 105 and PSYC 106, or with the approval of the HOD, 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 332	Social Psychology	30	S1	P: PSYC 206. RP: 15 further points from PSYC 200.
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	S2	P: PSYC 206. RP: PSYC 211, 15 further points from PSYC 200
PSYC 338	Family Psychology	30	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 HOD Psychology
PSYC 339	Health Psychology and Behaviour Change	30	S2	P: PSYC 206
PSYC 340	Cognitive Psychology	30	W	P: PSYC 208
PSYC 341	Special Topic: Environmental Psychology	15	S1	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; PHIL 110
PSYC 342	Special Topic	30	W	P: PSYC 206
PSYC 343	Psychology of Adult Development	30	S1	P: P: EITHER one course from PSYC 206 - PSYC 211: OR PSYC 105 and PSYC 106 PLUS 15 points from a course approved by the HoD Psychology.

PSYC 344	Research Methods	30	S2	P: PSYC 206
PSYC 345	Special Topic: Psychology and Sport	30	NO	P: (1) PSYC 105 and PSYC 106; and (2) PSYC 206 OR 15 points at 200-level or above in a relevant subject(s) approved by the Head of Department
PSYC 346	Judgement and Decision Making	15	S1	P: PSYC 206, or equivalent preparation

Science and Entrepreneurship

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
SCIE 301	Science and Entrepreneurship in New Zealand, Part 1	15	S1	P: 105 points, including 44-45 points at 200-level.
SCIE 302	Science and Entrepreneurship in New Zealand, Part II	15	S2	P: SCIE 301 or entry with the approval of the Dean of Science.

Science, Maori and Indigenous Knowledge

Note: This is an integrated multi-disciplinary course between the School of Maori and Indigenous Studies and the College of Science

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
SCIM 101	Science, Maori and Indigenous Knowledge	15	S2	R: MAOR 172 EQ: MAOR 172

Soil Science

Course Code	Course Title	Pts	2011	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	2011	P/C/R/RP/EQ
STAT 101	Statistics 1	15	S1 S2	R: STAT 111, STAT 112 EQ: STAT 111, STAT 112
STAT 201	Applied Statistics	15	S1	P: STAT 101, STAT 111, STAT 112 or STAT 131 R: FORE 210, STAT 220, FORE 222, STAT 222
STAT 202	Regression Modelling	15	S2	P: STAT 101, STAT 111, STAT 112 or STAT 131 R: FORE 210, STAT 220, FORE 224, STAT 224
STAT 211	Random Processes	15	S1	P: STAT 111, STAT 112, MATH 103, MATH 108, MATH 109, MATH 199, EMTH 119 or (STAT 101 and (MATH 102 or EMTH 118)) R: STAT 216
STAT 213	Statistical Inference	15	S2	P: One of 1) MATH 103 or MATH 199 or EMTH 119; 2) STAT 101 and (MATH 102 or EMTH 118); 3) (STAT 111 or STAT 112) and (MATH 108 or MATH 109) R: STAT 214
STAT 221	Monte Carlo Methods	15	S1	P: STAT 111, STAT 112, MATH 103, MATH 108, MATH 109, MATH 115, MATH 171, MATH 199, EMTH 119 or (STAT 101 and (MATH 102 or EMTH 118)) R: STAT 218
STAT 312	Sampling Methods	15	S1	P: 15 pts from STAT 201, STAT 202, STAT 213, and, a further 15 pts from STAT 200 to STAT 299.
STAT 313	Computational Statistics	15	S1	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: (MATH 103 or EMTH 119 or MATH 199) and STAT 213 and a further 15 points from STAT 200-299.
STAT 315	Multivariate Statistical Methods	15	S2	P: 15 points from (STAT 202 or STAT 213) and a further 15 points from STAT 200-299, or, subject to Head of Department approval.
STAT 316	Applied Stochastic Modelling	15	NO	P: (1) 11 points from STAT 212, STAT 214, STAT 216 and a further 11 points from STAT 210 to STAT 299; (2) MATH 109 OR MATH 199. R: MATH 376 RP: STAT 212, STAT 216 and 11 points from MATH 252, MATH 254, MATH 261, MATH 262, MATH 264, EMTH 202, EMTH 203,EMTH 204 EQ: 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.
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 Department approval.
STAT 319	Generalised Linear Models	15	S1	P: 30 points from STAT 200-299 or Head of Department approval
STAT 391	Special Topic	15	S1	P: Subject to the approval of the Head of Department
STAT 392	Special Topic	15	S2	P: Head of Department approval
STAT 393	Independent Course of Study	15	S1	P: Head of Department approval.
STAT 394	Independent Course of Study	15	S2	P: Head of Department approval.
STAT 395	Statistics Project	15	SU2	P: 33 points from STAT 210-299, and approval of Head of Department

Schedule of Endorsements for the Degree of Bachelor of Science

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 Introductory Chemistry (15 points) **or**

CHEM 112 General Chemistry (15 points)

Total 100-level points required: 60 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 101 Issues in New Zealand Biosecurity **or**

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) **and**

BIOL 377 Global Change and Biosecurity (30 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

SCIM 101 Science, Maori and Indigenous Knowledge

200-level

BIOL 232 Genetics (up to 2009)

BIOL 213 Microbiology and Genetics

BIOL 252 Plant Organisation and Physiology (up to 2009)

BIOL255 Plant Ecophysiology

CHEM 224 Analytical and Environmental Chemistry

ANTA 201 Antarctica and Global Change

POLS 206 Public Policy: An Introduction

300-level

BIOL 303 Forensic Genetics

BIOL 330 Advanced Concepts in Genetics

BIOL 313 Advanced Microbiology

BIOL 352 Plant Development & Biotechnology

BIOL 309 Experimental Design and Data Analysis for Biologists

Ecological/applied pathway

100-level

LAWS 101 The Legal System

SCIM 101 Science, Maori and Indigenous Knowledge

200-level

BIOL 211 Insect Biology

BIOL 212 Marine Biology

BIOL 215 Plant Diversity and Systematics

BIOL 214 Diversity of Algae (up to 2009)

FORE 218 Forest Biology

ANTA 201 Antarctica and Global Change

POLS 206 Public Policy: An Introduction

300-level

BIOL 305 Practical Taxonomy for Field Biologists

BIOL 309 Experimental Design and Data Analysis for Biologists

BIOL 371 Evolutionary Ecology

FORE 443 Biosecurity Risk Management

BIOL 374 Marine Ecosystems

BIOL 375 Freshwater Ecosystems

BIOL 378 Population Ecology and Conservation

BIOL 379 Sustaining Native Biodiversity in Primary Production Systems

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

CHEM 112 General Chemistry B **or**

CHEM 115

Total 100-level required points: 60 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 Plant Developmental Biology

Total 200-level required points: 75 points

300-level

BIOL 352 Plant Development and Biotechnology (30 points) **or**
BIOL 313 Advanced Microbiology (30 points)
and a minimum of 30 points from the following:
BIOL 330 Advanced Concepts in Genetics (30 points)
BIOL 332 Genetics and Evolution of Invasive Species (15 points)
BIOL 351 Cell Biology (30 points)
BIOL 371 Evolutionary Ecology (15 points)
Total 300-level required points: 60 points

Recommended courses

100-level

MATH 101 Introductory Mathematics with Applications or
MATH 102 Mathematics
LAWS 101 The Legal System
SCIM 101 Science, Maori and Indigenous Knowledge
BIOS 201 Issues in New Zealand Biosecurity
ENGR 101 Foundations of Engineering

200-level

BIOL 215 Plant Diversity and Systematics
BIOL 255 Plant Ecophysiology
BIOL 250 Principles of Animal Physiology
BIOL 273 New Zealand Biodiversity and Biosecurity
POLS 206 Public Policy: An Introduction
BCHM 221 Biochemistry A
BCHM 222 Biochemistry B
BCHM 281 Practical Biochemistry
PHIL 249 Environmental Bioethics

300-level

BCHM 303 Special Topic: Toxicology
BIOL 331/BCHM 301 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 111Cellular Biology and Biochemistry
BIOL 112 Ecology, Evolution and Conservation
BIOL 113 Diversity of Life
CHEM 112 General Chemistry B
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 Microbiology
BIOL 330 Advanced Concepts in Genetics
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
CHEM 112 General Chemistry B
Plus recommended courses from list above

200-level

BIOL 209 Introduction to Biological Data Analysis
BIOL 254 Plant Developmental Biology
BIOL 213 Microbiology and Genetics
BIOL 231 Foundations in Molecular Biology
BIOL 271 Evolution
BIOL 253 Cell Biology 1 or BIOL 255 Plant Ecophysiology
BCHM 281 Practical Biochemistry
Plus recommended courses from lists above

300-level

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

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 373 Behavioural Ecology
BIOL 374 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 Introductory Chemistry
GEOG 106 Global Environmental Change
GEOG 108 Resources and Sustainability
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

GEOG 323 Geospatial Analysis in the Social and Environmental Sciences

Environmental Science

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, 255 points must come from the courses listed below and meet the following requirements:

(a) At least 105 points at the 100-level with at least 60 points at the 100-level outside the major.
(b) At least 90 points at the 200-level with at least 45 points at the 200 level outside the major.
(c) At least 60 points at the 300-level. These points may be in the same subject as the major.

Note: The course of study needs to be coherent and approved by the Coordinator of Environmental Science. It should include a broad range of environmental science subjects, as well as appropriate supporting subjects such as statistics, computer science and research design. With the approval of the Coordinator, courses at a higher level can substitute for courses at a lower level when meeting the above requirements.

Antarctic Studies

100-level

ANTA 101 Antarctica (Summer School course)
ANTA 102 Antarctica: The Cold Continent
ANTA 103 Antarctica: Life in the Cold

200-level

ANTA 201 Antarctica and Global Change

Biology

100-level

BIOL 112 Ecology, Evolution & Conservation
BIOL 113 Diversity of Life
BIOL 114 New Zealand Biodiversity and Biosecurity (up to 2008)

200-level

BIOL 209 Introduction to Biological Data Analysis
BIOL 211 Insect Biology
BIOL 212 Marine Biology
BIOL 213 Microbiology and Genetics
BIOL 214 Diversity of Algae (up to 2009)
BIOL 252 Plant Organisation and Physiology (up to 2009)
BIOL 255 Plant Ecophysiology
BIOL 270 Ecology
BIOL 273 New Zealand Biodiversity and Biosecurity

300-level

BIOL 309 Experimental Design and Data Analysis for Biologists
BIOL 354 Animal Eco-physiology
BIOL 373 Behavioural Ecology
BIOL 374 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

Biosecurity

200-level

BIOS 201 Issues in New Zealand Biosecurity

Chemistry

100-level

CHEM 111 General Chemistry A or
CHEM 113 Engineering Chemistry (up to 2009)
CHEM 112 General Chemistry B or
CHEM 115 General Chemistry C (up to 2009)

200-level

CHEM 211 Molecules
CHEM 224 Analytical & Environmental Chemistry (up to 2010)
CHEM 233 Introduction to Physical Chemistry (up to 2010)
CHEM 241 Inorganic Chemistry
CHEM 281 Practical Chemistry
CHEM 282 Measurement and Analysis (up to 2010)

300-level

CHEM 324 Analytical and Environmental Chemistry
CHEM 382 Instrumental Methods

Geography

100-level

GEOG 106 Global Environmental Change
GEOG 107 Sustainable Cities: Environmental and social perspective on global urbanisation
GEOG 108 Resources and Sustainability

200-level

GEOG 201 Environmental Processes: Principles and Applications
GEOG 205 Introduction to Geographical Information Systems
GEOG 206 Resource and Environmental Management
GEOG 211 Environmental Processes: Research Practice
GEOG 214 Applications in Physical Geography (up to 2010)

300-level

GEOG 305 Environmental Hazards and Management
GEOG 309 Research Methods in Geography
GEOG 310 Weather Systems
GEOG 311 Coastal Processes
GEOG 312 Glacial Processes
GEOG 313 Remote Sensing Data for Geographic Analysis
GEOG 323 Geospatial Analysis in the Social and Environmental Sciences
GEOG 324 Advanced GIS
GEOG 340 Field-Based Geomorphic Applications

Geology

100-level

GEOL 111 Planet Earth: An introduction to Geology
GEOL 112 Understanding Earth History
GEOL 113 Environmental Geohazards

200-level

GEOL 230 Field Studies A (up to 2009)
GEOL 231 Field Studies B (up to 2009)
GEOL 234 Stratigraphy and Palaeontology (up to 2009)
GEOL 235 Earth Surface Processes (up to 2009)
GEOL 236 Earth Dynamics and Plate Tectonics (up to 2009)
GEOL 240 Field Studies A - Mapping
GEOL 241 Field Studies B - Field Techniques
GEOL 243 Depositional Environments and Stratigraphy
GEOL 244 Structural Geology and Global Geophysics
GEOL 245 Earth System Science

300-level

GEOL 331 Principles of Basin Analysis
GEOL 333 Evolution of the Biosphere (Up to 2010)
GEOL 337 Exploration and Mining Geology
GEOL 338 Engineering and Environmental Geology
GEOL 351 Advanced Field Techniques
GEOL 352 Advanced Field Mapping

Forestry

100-level

FORE 111 Trees, Forests and the Environment

200-level

FORE 218 Forest Biology

400-level

FORE 443 Biosecurity Risk Management
Note: This course must be selected as part of the 105 non-science points for the degree.
FORE 445 Environmental Forestry
Note: This course must be selected as part of the 105 non-science points for the degree.

Freshwater Management

200-level

WATR 201 Freshwater Resources

300-level

WATR 301 Water Resource Management (from 2012)

Mathematics

100-level

MATH 171 or MATH 170 Mathematical Modelling and Computation

Natural Resources - Environmental Engineering

200-level

ENNR 203 Environmental Quality and Ecosystems
Note: This course must be selected as part of the 105 non-science points for the degree.

300-level

ENNR 305 Ecological Engineering
Note: This course must be selected as part of the 105 non-science points for the degree.

Philosophy

100-level

PHIL 139 Ethics, Politics and Justice

200-level

PHIL 249 Environmental Ethics

Physics

300-level

PHYS 316 Geophysical Fluid Dynamics

Psychology

200-level

PSYC 206 Research Design and Statistics

300-level

PSYC 341 Special Topic: Environmental Psychology

Science, Maori & Indigenous Knowledge

100-level

SCIM 101 Science, Maori & Indigenous Knowledge

Statistics

100-level

STAT 101 or STAT 111 or STAT 112 Statistics 1 (up to 2009)

200-level

STAT 201 or STAT 222 Applied Statistics
STAT 202 or STAT 224 Regression Modelling

300-level

STAT 312 Sampling Methods
STAT 315 Multivariate Statistical Methods
STAT 319 Generalised Linear Models

The Degree of Bachelor of Speech and Language Therapy (BSLT)

See also General Course and Examination Regulations

1. Approval of Candidacy

Every candidate for the Degree of Bachelor of Speech and Language Therapy 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 Therapy (BSLT) 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 1 November in the year preceding desired entry. When the Intermediate Year is not completed at the University of Canterbury, it is the responsibility of the student to ensure that an up-to-date official academic record is sent to the Department of Communication Disorders as soon as it is available. Students must also Apply to Enrol.
(b) To be eligible for admission students must have completed Intermediate Year courses of at least 120 points. Selection is based on academic merit but in cases of equal merit preference will be given to people who have completed the recommended courses.
(c) Students who have not completed the intermediate year at the University of Canterbury and are admitted to the first professional year are required to complete and pass CMDS161 concurrently with the first professional year programme.
(d) Admission to the degree is normally limited to 40 candidates. Up to four additional places may be designated for international students. 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) Admission to the degree is competitive and selection will be based upon grades in relevant course work (generally a B+ or better grade average), a statement of interest, and for those meeting the basic admission criteria (as indicated by the application material and academic transcripts) an interview with Departmental representatives. Relevant work or volunteer experience with individuals who have communication disorders may also be considered when entry decisions are made.
(g) 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.

(h) 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.

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. BSLT with Honours

The Degree of Bachelor of Speech and Language Therapy 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).

Schedule to the Regulations for the Degree of Bachelor of Speech and Language Therapy

Note: SU2 indicates a November 2010 start date. See Course Catalogue section for a full list of semester indicators and course start dates.

Intermediate Examination

Candidates for admission to the First Professional Year of the Bachelor of Speech and Language Therapy must have passed courses totalling at least 120 points at this university or the equivalent at another university. A candidate's course of study for the Intermediate Year will consist of a total of 120 points made up of, or equivalent to, eight 15-point courses. It is recommended that they include courses selected from the following list; however, students should check with the Department to discuss the options prior to enrolment.

Compulsory course

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
CMDS 161	Anatomy and Physiology of the Speech and Hearing Mechanism	15	S2	R: CMDS 261.

Strongly recommended courses

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
CMDS 111	Introduction to Developmental Communication Disorders	15	S1	R: SPTH 101

CMDS 112	Introduction to Acquired Communication Disorders	15	S2	R: SPTH 101
LING 101	The English Language	15	S1	R: ENGL 123, ENGL 112, LING 111

Other recommended courses

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
BIOL 116	Human Biology	15	S2	
EDUC 102	Child and Adolescent Development and Health	15	S1 S2	R: EDUC 121 and TEDU 110
HLTH 101	Introduction to Health Studies	15	S2	
MAOR 107	Aotearoa: Introduction to Traditional Maori Society	15	S1	R: PACS 102 EQ: PACS 102
MAOR 108	Aotearoa: Introduction to New Zealand Treaty Society	15	S2	R: MAOR 113 (prior to 2006)
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
SCIM 101	Science, Maori and Indigenous Knowledge	15	S2	R: MAOR 172 EQ: MAOR 172

Notes:

1. *Students who have not completed the intermediate year at the University of Canterbury and are admitted to the first professional year are required to complete and pass CMDS 161 concurrently with the first professional year programme.*
2. *Students who have completed the Intermediate Year without taking CMDS 111 and CMDS 112 and have been accepted into the first professional year will be required to undertake a related course of self-directed study during the summer prior to entry.*
3. *Students who have not completed LING 101 or an equivalent course will also be required to undertake a related course of self-directed study over the summer prior to entry.*
4. *It is the responsibility of the student to purchase reading materials as recommended by the Department of Communication Disorders.*
5. *Students from other universities should contact the College of Science Student Advisor for information on equivalent and acceptable courses.*

First Professional Year

All courses are compulsory.

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
CMDS 221	Linguistics and Language Acquisition	15	S1	C: CMDS 231 or LING 207
CMDS 222	Language Disorders in Children	15	S2	P: CMDS 221
CMDS 231	Clinical Phonetics	15	S1	
CMDS 232	Articulation and Phonology	15	S2	
CMDS 242	Introduction to Audiology	15	S1	
CMDS 262	Neurosciences	15	S2	
CMDS 281	Observation and Clinical Practice 1	15	S1	
CMDS 282	Clinical Practice 2	15	S2	

Notes:

1. *Entry to the First Professional Examination is limited to 40 students, and selection is based on fluency in English and suitability for training as a Speech and Language Therapist. Candidates must submit an enrolment*

application and a separate application form to the Head of the Department of Communication Disorders by 1 November.

2. *Students who have not completed the intermediate year at the University of Canterbury and are admitted to the first professional year are required to complete and pass CMDS 161 concurrently with the first professional year programme.*

Second Professional Year

All courses are compulsory.

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
CMDS 320	Spoken and Written Language Disorders in Education	15	S1	P: CMDS 222 (SPTH 222) and CMDS 232 (SPTH 232)
CMDS 351	Fluency Disorders	15	S2	
CMDS 363	Motor Speech Disorders	15	S2	
CMDS 365	Dysphagia and Related Disorders - Diagnosis	15	S1	
CMDS 367	Voice Science and Disorders	15	S2	
CMDS 369	Aphasia and Related Disorders	15	S1	
CMDS 381	Clinical Practice 3	15	SU2 S1	P: CMDS 281 and CMDS 282
CMDS 382	Clinical Practice 4	15	SU2 S2	P: CMDS 281 (SPTH 281) and CMDS 282 (SPTH 282)

Third Professional Year

All courses are compulsory.

Course Code	Course Title	Pts	2011	P/C/R/RP/EQ
CMDS 410	Cultural and Ethical Issues	15	S1	
CMDS 442	Aural Rehabilitation	15	S2	
CMDS 461	Advanced Topics in Speech and Language Disorders	15	S1	
CMDS 462	Evaluating Research for Clinical Practice	15	S2	
CMDS 465	Dysphagia and Related Disorders: Management	15	S1	P: CMDS 365 (SPTH 365)
CMDS 482	Clinical Practice 5	15	SU2 S1	P: CMDS 381 (SPTH 381) and CMDS 382 (SPTH 382)
CMDS 484	Clinical Practice 6	30	SU2 S2	P: CMDS 381, CMDS 382.
CMDS 490	Research Project	30	W	P: Subject to approval of the Head of Department.

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, Electronics*, Finance, Geography, Geology, Linguistics, Management Science, Mathematics, Philosophy, Physics, Psychology, and Statistics.

**No new enrolments are being accepted from 2011 onwards.*

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 Certificate in Science Innovation and Entrepreneurship (GradCertScIE)

See also General Course and Examination Regulations.

1. Qualifications required to enrol in the Certificate

Every candidate for the Graduate Certificate in Science Innovation and Entrepreneurship shall have:

(a) either

i. qualified for the award of any appropriate degree in New Zealand; or

ii. been admitted ad eundem statum as entitled to enrol for the Graduate Certificate; and

(b) been approved as a candidate for the Graduate Certificate by the Dean of Science.

2. Structure of the Graduate Certificate

To qualify for the Graduate Certificate in Science Innovation and Entrepreneurship a candidate must pass courses totalling at least 0.5000 EFTS/60 points at 300-level, in courses listed in the Schedule to these regulations. Up to 0.2500 EFTS/30 points may be credited from courses offered by Lincoln University as listed on the degree Schedule, or the

schedule for another degree as approved by the Dean of Science.

3. Approval of Course of Study

The personal course of study of a candidate shall be approved by the Dean of Science, or nominee.

4. Part-time Enrolment

The Certificate may be studied part-time, and will normally be completed within three years of enrolment in the qualification.

5. Repeating of Courses

A candidate may repeat one failed course for the Certificate subject to the approval of the Dean of Science..

6. Award of the Certificate with Distinction

The Graduate Certificate in Science Innovation and Entrepreneurship may be awarded with Distinction.

Schedule to the Regulations for the Graduate Certificate in Science Innovation and Entrepreneurship

Further information about the University of Canterbury courses listed below can be found at www.canterbury.ac.nz/courses. Further information about the Lincoln University courses below can be found at www.lincoln.ac.nz

Compulsory Courses

University of Canterbury courses

(a) SCIE 301 Science and Entrepreneurship in New Zealand Part 1
(b) SCIE 302 Science and Entrepreneurship in New Zealand Part 2

Lincoln University courses

SCIE 399 Research Essay (unblocked)

Electives

University of Canterbury courses

(a) MGMT 301 Managing Change
(b) MGMT 304 Diversity in Organisations
(c) MGMT 324 International Entrepreneurship
(d) MGMT 332 International Management

Lincoln University courses

(a) SCIE 398 Research Essay (unblocked)
(b) BMGT 310 Business Plan

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, Electronics*, Ethics, Finance, Geography, Geology, Linguistics, Management Science, Mathematics, Philosophy, Physics, Psychology, and Statistics.

**No new enrolments are being accepted from 2011 onwards.*

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 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(1) (c) below.

2. Subjects in which the Degree may be Awarded

The degree of BSc(Hons) may be awarded in the following subjects: Astronomy, Biochemistry, Biotechnology, Cellular and Molecular Biology, Chemistry, Computational and Applied Mathematics, Computer Science, Ecology, Economics, Engineering Geology, Environmental Science, Evolutionary Biology, Finance and Mathematics, Finance and Statistics, Geography, Geology, Hazard and Disaster Management, Management Science, 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 pre - requisite 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 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 Masters 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

Astronomy

ASTR 480, ASTR 424, PHYS 407, and six courses as follows:

(a) at least one course from ASTR 421–423, 425–426

(b) the remainder from PHYS 401–460, but no more than two courses from PHYS 441–460.

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 and PHYS 312 and those with an interest in theoretical physics papers will normally be expected to have taken PHYS 326.

Biochemistry

Courses totalling at least 1.0 EFTS and a project (BCHM 480) as approved by the Programme Co-ordinator. Normally courses are selected from

BCHM 401 (BIOL 436), BCHM 403 (BIOL 435), BCHM 405 (BIOL 434), BCHM 406 (BIOL 430), BCHM 420, and CHEM 421–422. Other suitable courses include: BCHM 407–409, BIOL 431–432, BIOL 451, BIOL 491.

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

Biotechnology

Four courses and a research project (BIOT 480). The courses are BIOL 491, plus at least two others selected from BIOL 430–435, BIOL 453, BIOL 492, BIOL 493. The fourth course should be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P. (1) BIOL 252 or BIOL 254 and BIOL 255; and
(2) BIOL 352; and
(3) one course selected from BIOL 313, BIOL 330, BIOL 331.

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

Cellular and Molecular Biology

Four courses and a research project (CEMB 480). At least three courses are to be selected from BIOL 430–436, BIOL 491, BIOL 493. The fourth course should be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P: Three courses from BCHM 301, BIOL 313, BIOL 330, BIOL 331, 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) At least 66 points from CHEM 221–223 and 231–273; and
(2) CHEM 281 and 282; and
(3) at least 30 points from courses in Mathematics, Statistics or ENGR 102; and
(4) CHEM 333, 361, 362, 373, 381 and 382.

Note: With the approval of the Head of Department, 30 points from CHEM 333 and CHEM 361–373 may be replaced by CHEM 324 or CHEM 325.

Computational and Applied Mathematics

CAMS 449 Research Project, and eight other approved courses chosen from MATH 401–490 (other than MATH 449), MSCI 451–462 or STAT 401–490 (other than 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. (1) 45 points from MATH 201, MATH 202, MATH 203, MATH 220, MATH 240, MATH 270, including MATH 201 and at least one of MATH 202, MATH 203; and
(2) 60 points from MATH 302–379; and
(3) an additional 30 points from MATH 301–394 and STAT 301–394, or other approved courses.

Computer Science

COSC 460 and eight half-courses to be selected (with the approval of the Head of Department) from COSC 401–439, 461–475. Not all half-courses may be available in one year.

P. (1) 66 points from 200-level COSC; and
(2) a total of 36 points from courses in Mathematics and Statistics; and
(3) 84 points from 300-level COSC.

Ecology

Four courses and a research project (ECOL 480). The courses are to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 421, BIOL 453, BIOL 470–479, BIOL 490, ENVR 410, ENVR 411, FORE 616.

P. (1) 60 points from BIOL 370–379; and
(2) BIOL 309 or BIOL 301 or equivalent (e.g. GEOG 309 or PSYC 206).

Economics

ECON 680 and eight courses or their equivalent from ECON 601–679. 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. ECON 680 is a whole year course. Candidates can normally attempt each course on offer only once. All full-time candidates shall normally take five courses, or their equivalent, in each semester.

P. (1) ECON 201 or ECON 206; and
(2) ECON 213 or STAT 213; and
(3) ECON 203 or ECON 321; and

(4) 60 points from ECON 321, ECON 322, ECON 323, ECON 324, ECON 325, ECON 326 (or equivalent as approved by the Head of Department).

Engineering Geology

A total of seven courses plus the Research Project (ENGE 490). Courses must include ENGE 471, ENGE 472, ENGE 485, ENGE 486, at least one course chosen from GEOL 473–489, and at least one course chosen from ENGE 476–482, with the approval of the Head of the Department of Geological Sciences.

P. (1) 15 points of MATH 100-level courses; and
(2) GEOL 230 and GEOL 231 (or equivalent fieldwork); and
(3) at least 44 points from GEOL 232–238; and
(4) normally at least 30 points from ASTR, BIOL, CHEM, COSC, GEOG, PHYS, or STAT courses; and
(5) GEOL 351 and GEOL 352 (or equivalent fieldwork); and
(6) 56 points from GEOL 300-level courses

Notes:

1. *An additional 28 points at GEOL 300-level is strongly advisable.*
2. *Practical and fieldwork may be required as part of any ENGE 471–486 courses.*
3. *Not all courses may be offered in any one year.*

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 84 points at 300-level, and as approved by the Co-ordinator, may enrol for Environmental Science honours 400-level.

Evolutionary Biology

Four courses and a research project (EVOL 480). At least two courses are to be selected from BIOL 421, BIOL 430, BIOL 431, BIOL 470, BIOL 478. The remaining two courses to be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P. (1) BIOL 271; and
(2) 60 points from 300-level BIOL courses including at least one of BIOL 330, BIOL 332, 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 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.

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 ENGE 471–482 (Engineering Geology) or from another relevant subject may replace up to three of the optional courses, or one full year course from another subject may replace two of the optional 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 44 points from GEOL 221–226, 232–238; and
(3) normally at least 54 points from ASTR, BIOL, CHEM, COSC, GEOG, MATH, PHYS, or STAT courses; and
(4) GEOL 351 and GEOL 352 (or equivalent fieldwork); and
(5) 56 points from other GEOL 300-level courses.

Notes:

1. *An additional 28 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).*

Hazard and Disaster Management

HAZM 401, HAZM 403, ENCI 601, ENCI 462 (or equivalent), a research project (HAZM 490) and additional courses chosen to complete a coherent programme in the area of hazard and disaster management with a total course weight of not less than 1.2 EFTS with the approval of the Programme Director, Department of Geological Sciences.

P. (1) 15 points of 100-level STAT or equivalent; and
(2) normally at least 84 points at 300-level from the the BSc schedule with approval by the Programme Director.

Note: 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).

Management Science

MSCI 680 and a further 120 points (or equivalent) chosen from MSCI 601–679 with approval of the Head of the Department of Management. Up to 30 points (or equivalent) may be replaced by other graduate courses with approval of the Head of the Department of Management.

P: At least 84 points at 300-level, normally including:
(1) MSCI 301 or (MSCI 315 and 316);
(2) MSCI 302 or (MSCI 310 and 311);
(3) 28 points at 300-level in MSCI, MATH, STAT or COSC courses as approved by the Head of Department of Management;
(4) (MSCI 201 and MSCI 202) or MSCI 204;
(5) MSCI 203 or MSCI 216;
(6) MSCI 210 or MSCI 280;
(7) MSCI 101;
(8) MATH 102 or 103;
(9) STAT 101.

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 MATH201 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.

Mathematical Physics

PHYS 407 and MAPH 480 and seven courses chosen from PHYS 401–460 and MATH 401–490 (other than MATH 449). Normally at least four courses must be chosen from the PHYS course list and at least two from the MATH course list. Not all courses may be available in any one year. Note: The choice of courses is subject to the approval of the Coordinator, Mathematical Physics.

P. (1) PHYS 201–204; 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 Co-ordinator, Mathematical Physics. Note: Students will normally be expected to take PHYS 311, PHYS 312, PHYS 326; and 60 points from MATH 322, 342, 343, 361, 363, 371.

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 Programme Director, one or two of the courses may be replaced by appropriate courses from another subject.

P: 90 points at 300-level, approved by the Programme Director.

Microbiology

Four courses and a research project (MBIO 480). The courses are BIOL 492 and BIOL 493 plus a further two courses selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P. (1) BIOL 313; and
(2) One course selected from BIOL 331, BCHM 301, BIOL 330.

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

Physics

PHYS 407, PHYS 480 and seven courses chosen from PHYS 401–460. A maximum of two courses from PHYS 441–460. 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 and PHYS 312 and those with an interest in theoretical physics papers will normally be expected to have taken PHYS 326.

Plant Biology

Four courses and a research project (PBIO 480). The courses are to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 421, BIOL 430–432, BIOL 434–436, BIOL 453, BIOL 471–474, BIOL 476, BIOL 478, BIOL 479, BIOL 490–493.

P: 90 points from 300-level BIOL courses.

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

Psychology

PSYC 470 (a project) and four whole of year courses (or their semester course equivalent) totalling at least 1.00 EFTS from PSYC 401–469 and PSYC 471–475.

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 previously. Normally at least six courses will be chosen from the STAT course list.

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

Zoology

Four courses and a research project (ZOOL 480). The courses are to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 421, BIOL 430–432, BIO434–436, BIOL 451, BIOL 470–474, BIOL 476, BIOL 479, BIOL 490.

P: 90 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

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) ECON 201 and (ECON 203 or 230); and
(2) STAT 213 or (STAT 212 and STAT 214); and
(3) 45 points from MATH 201–294, normally including MATH 201, 203, 240; and
(4) 60 points from ECON 321, 322, 323, 324, 325, 326 and 331; and
(5) 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 one of the eight courses will be STAT 464 if the student has not been credited with STAT 213 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 (MAntaStud)

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
i. qualified for the Postgraduate Diploma in Antarctic Studies, or an equivalent post-graduate qualification, normally with a B average; or
ii. qualified for a degree in a New Zealand university which is of relevance to Antarctic Studies and the proposed course of study; and
iii. presented evidence of ability for advanced level academic study; or
iv. been admitted ad eundem statum to enrol for the Master of Antarctic Studies.

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

2. Award of the Degree With or Without an Endorsed Option; Award of the Degree with Honours

The degree of Master of Antarctic Studies maybe 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.

3. Structure of the Degree

The programme for the degree of Master of Antarctic Studies consists of Part I and Part II.

(a) A candidate admitted under (ii.) and (iii.), or (iv.) of Regulation 1(a) shall offer both Parts.

(b) A candidate admitted under (i.) of Regulation 1(a) for a Master of Antarctic Studies shall offer Part II only.

(c) All students admitted to the Master of Antarctic Studies will complete a coherent programme of study approved by the Chair of the Board of Studies: Antarctic Studies.

4. Full-time/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.

5. Duration of the Course

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 full-time study.

The time limits for the thesis or research project will be determined by the Dean of Science on the recommendation of the Chair of the Board of Studies: Antarctic Studies, but will normally be no less than one year and no more than two years of full-time study. 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 Chair of the Board of Studies: Antarctic Studies.

6. Requirements for Part I

(a) The requirements for Part I shall be ANTA 401 and ANTA 402 and appropriate 400-level courses approved by the Chair of the Board of Studies: Antarctic Studies and 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 Board of Studies: Antarctic Studies, 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 Chair of the Board of Studies: Antarctic Studies 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(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 Antarctic Studies. The candidate may also apply to the Chair of the Board of Studies: Antarctic Studies 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 Antarctic Studies.

Note: Course work shall consist of approved courses at 400-level or higher from the University of Canterbury or another tertiary education institution in New Zealand, as approved by the Board of Studies: Antarctic Studies.

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 Board of Studies: Antarctic Studies. The requirements of the General Course and Examination Regulations, Part L, shall be met.

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

Part I

(a) ANTA 401 Antarctic Global Connections, compulsory (0.3750 EFTS)

(b) ANTA 402 Antarctic Legal System, compulsory (0.1250 EFTS)

(c) Other 400-level courses relevant to a coherent programme of study. A total course weighting of at least 1.0 EFTS must be completed.

Note: Courses other than those on the above Schedule will be approved by the Board of Studies: Antarctic Studies, for inclusion in a candidate's course of study.

Part II

ANTA 690 Antarctic Studies Masters Thesis (1.000 EFTS)

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 Therapy; 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.

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 for students with a BSLT and 2.21 EFTS for those without a BSLT degree.

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 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.

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

Year 1

First Semester

(a) CMDS 629 Clinical Audiology *0.0500 EFTS*
(b) CMDS 631 Biological Bases of Auditory Function *0.0900 EFTS*
(c) CMDS 632 Acoustics and Psychoacoustics *0.0900 EFTS*
(d) CMDS 633 Amplification *0.0900 EFTS*

Second Semester

Co-req Aural Rehabilitation (CMDS 442 in BSLT*) *0.1250 EFTS*
(a) CMDS 604 Research Design *0.0900 EFTS*
(b) CMDS 634 Paediatric Audiology *0.0900 EFTS*
(c) CMDS 635 Electrophysiological Techniques *0.0900 EFTS*
(d) CMDS 636 Advanced Audiology *0.0900 EFTS*
(e) CMDS 637 Cochlear Implants *0.0500 EFTS*

Whole of Year

CMDS 610 Clinical Observation and Practice I *0.1833 EFTS*

Summer

CMDS 610 Externship *0.0900 EFTS*

Year 1 Total EFTS BSLT Background *1.0000 EFTS*

Year 1 Total EFTS non-BSLT Background *1.1200 EFTS*

**Course offered as part of BSLT degree. Students enrolled in the MAud programme without having a BSLT background are required to take these courses.*

The Thesis

CMDS 690** *0.7500 EFTS*

***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.*

Year 2

First Semester

(a) CMDS 638 Medical Audiology *0.0410 EFTS*
(b) CMDS 642 Auditory Processing Disorders *0.0410 EFTS*

Term 3

CMDS 639 Vestibular Disorders *0.0410 EFTS*

Whole Year

Co-req CMDS 299 Introduction to Communicaitons Disorders* - MAud *0.1250 EFTS*
(a) CMDS 620 Clinical Observation and Practice II *0.0833 EFTS*

Summer

CMDS 680 Clinical Practice III *0.0410 EFTS*

Year 2 Total EFTS BSLT Background (including the thesis) *1.0000 EFTS*

Year 2 Total EFTS non-BSLT Background (including the thesis) *1.12 EFTS*

**Course offered as part of BSLT degree. Students enrolled in the MAud programme without having a BSLT are required to take this course.*

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 statum 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 and Dean of Science.

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, one or both of GISC 405 and GISC 406; one or more of GISC 410, GISC 411, GISC 412, and GISC 413 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

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:

GISC 410 GIS 2.0 (0.125 EFTS) (Offered by University of Victoria)

GISC 411 GIS in Health (0.125 EFTS)

GISC 412 Spatial Algorithms and Programming (0.125 EFTS)

GISC 413 Special Topic: Geomatic Data Acquisition Techniques (0.125 EFTS) (May not be offered in 2011)

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 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 Therapy; 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 Engineering Geology (Note: Candidates who qualify for the Canterbury Postgraduate Diploma in Engineering Geology are subject to the provisions of the PGDipEngGeol Regulation 5); or
   vii. 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
   viii. be admitted ad eundem statum as entitled to enrol for the degree of Master of Science; or
   ix. 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, BSLT, 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 or the Postgraduate Diploma in Engineering Geology, whichever is appropriate.

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 or the Postgraduate Diploma in Engineering Geology, whichever is appropriate.

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 Masters 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 or PGDipEngGeol

A candidate who is enrolled for M.Sc. Part I may at any time apply to the Dean of Science for transfer to either the PGDipSc or PGDipEngGeol, whichever is appropriate.

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 or PGDipEngGeol, whichever is appropriate, instead of the Degree of Master of Science.

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

Applied Psychology

Part I consists of courses totalling 120 points (1.00 EFTS) selected from APSY 601-619 and PSYC 401, 451, 460, 461, 464, 473, and must include either PSYC 460 or 464. 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 courses totalling 120 points (1.00 EFTS), including APSY 660 Dissertation (90 points) and a further 30 points selected from the same set of courses offered in Part 1.

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. See the Limitation of Entry regulations.

Astronomy

Part I: ASTR 424, PHYS 407, ASTR 480 and four courses as follows:

(a) at least one course from ASTR 421-423, 425-426
(b) the remainder from PHYS 401-460, but no more than two courses from PHYS 441-460.

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.

Part II: A thesis (ASTR 690) which shall normally be presented not later than 12 months after the date of enrolment for Part II. In determining the class of honours, Parts I and II are weighted in the ratio 2:3.

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

Note: Students will normally be expected to have taken PHYS 311 and PHYS 312 and those with an interest in theoretical physics papers will normally be expected to have taken PHYS 326.

Biochemistry

Part I: Courses totalling at least 1.0 EFTS as for Biochemistry Honours, selected with the approved of the Programme Co-ordinator. Normally courses are selected from BCHM 401 (BIOL 436), BCHM 403 (BIOL 435), BCHM 405 (BIOL 434), BCHM 406 (BIOL 430), BCHM 420, and CHEM 421-422. Other suitable courses include: BCHM 407-409, BIOL 431-432, BIOL 451, BIOL 491.

Part II: A thesis (BCHM 690) on a research project selected with the approval of the Course Co-ordinator. The thesis shall normally be presented not later than 16 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: 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.

Biotechnology

Part 1: Four courses. BIOL 491 plus at least two other courses selected from BIOL 430-435, BIOL 453, BIOL 492, BIOL 493. The fourth course should be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

Part II: A thesis (BIOT 690) which shall normally be presented no later than 16 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) BIOL 252 or BIOL 254 and BIOL 255; and
(2) BIOL 352; and
(3) one course selected from BIOL 313, BIOL 330, BIOL 331.

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

Cellular and Molecular Biology

Part I: Four courses. At least three courses are to be selected from BIOL 430-436, BIOL 491, BIOL 493. The fourth course should be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

Part II: A thesis (CEMB 690) which shall normally be presented no later than 16 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: Three courses from BCHM 301, BIOL 313, BIOL 330, BIOL 331, 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 66 points from CHEM 213-223 and CHEM 271-273, BCHM 205 and BCHM 206; and
(2) 22 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 one of EDEM 695-697, or HLTH 462, or PSYC 460 or PSYC 461 or PSYC 464.

Part II: 1.00 EFTS (120 points) consisting of a thesis (CFPY 695) which shall normally be presented no later than 24 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 1:1. The subject area of the thesis shall be approved prior to registration of the thesis by either:

(a) the Director of the Health Sciences Centre (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 Bachelors degree with a major in Psychology; or
(2) Any relevant Bachelors 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 Mathematics

Part I: Eight approved courses chosen with the approval of the Course Co-ordinator from MATH 401-490 (other than MATH 449), MSCI 451-462, STAT 401-490 (other than STAT 449). Note: With the approval of the Course Co-ordinator, candidates may substitute one or two courses from other subjects in an application area.

Part II: A thesis (CAMS 690).

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

P: Courses totalling 128 points made up as follows:
(1) 84 points at 300-level from MATH 323, 346, 352, 353, 361, 362, 363, 371 and 381; and
(2) 44 points from other approved courses at 200-level or above. Normally these would come from CHEM, COSC, MATH, MSCI, PHYS, STAT or Engineering courses.

Computer Science

Part I consists of eight half-courses chosen from COSC 401-439, and COSC 461-475.

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.

Ecology

Part I: Four courses to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 421, BIOL 453, BIOL 470-479, BIOL 490, ENVR 410, ENVR 411, FORE 616.

Part II: A thesis (ECOL 690) which shall normally be presented no later than 16 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 BIOL 370-379; and
(2) BIOL 309 or BIOL 301 or equivalent (eg, GEOG 309 or PSYC 206).

Engineering Geology

Students should consult the MSc regulations for details of prerequisites and other requirements for this degree.

The course of study for Part I includes a total of eight courses. The course selection will normally include: ENGE 471, ENGE 472, ENGE 485, ENGE 486, and at least one course chosen from GEOL 473-489, and at least one course chosen from ENGE 476-482 (as for Engineering Geology (BSc(Hons)) with the approval of the Head of the Department of Geological Sciences.

Notes:

1. *With the approval of the Head of Department one of the courses ENGE 471, 472, 485, 486 may be replaced by one other ENGE course.*
2. *With the approval of the Head of Department up to two courses from GEOL 473-485 may replace up to two of the optional courses, or one full year course from another subject may replace two of the optional courses.*
3. *Practical and field work may be required as part of any ENGE 471-486 courses.*
4. *Not all courses may be offered in any one year.*

Part II: Thesis (ENGE 690). The thesis shall normally be presented not later than 16 months after enrolment. Parts I and II are weighted in the ratio of 1:2. The concurrent thesis is assigned a course weight according to the course work carried out at the same time, so that the total EFTS for the year is 1.000.

P. (1) GEOL 351 and GEOL 352 (or equivalent fieldwork), and 56 points from other GEOL 300-level 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); and
(2) 5 points of MATH 100-level courses. (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.)

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 Depart-

ment, may apply to have the courses credited towards the Postgraduate Diploma in Engineering Geology.

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 Co-ordinator, 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 Co-ordinator.

Note that normally all individual course prerequisites must be satisfied.

The requirement for Part II is a thesis (ENVR 690) which shall normally be presented not later than 16 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 of 2:3.

P: 84 points in appropriate 300-level courses in Science, Engineering and Forestry approved by the Co-ordinator. A minimum B grade in relevant 300-level courses is normally required.

Evolutionary Biology

Part I: Four courses. At least two courses are to be selected from BIOL 421, BIOL 430, BIOL 431, BIOL 470, BIOL 478. The remaining two courses to be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

Part II: A thesis (EVOL 690) which shall normally be presented no later than 16 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) BIOL 271; and
(2) 60 points from 300-level BIOL courses including at least one of BIOL 330, BIOL 332, BIOL 371, BIOL 373; and
(3) BIOL 309 or equivalent background in statistics.

Geography

Part I: Courses equivalent to 1.0 EFTS or 120 points from GEOG 401-420 and GISC 403-413, 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 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.

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) which shall normally be presented no later than 16 months after the date of enrolment for Part II.

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 ENGE 471-482 (Engineering Geology) or from another relevant subject may replace up to three of the optional courses, or one full year course from another subject may replace two of the optional 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 56 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

Part I: The programme of study consists of HAZM 401, HAZM 403, ENCI 601, ENCI 462 (or equivalent), and four other courses chosen to form a full-time coherent programme in the area of hazard and disaster management with the approval of the Programme Director, Department of Geological Sciences. Note: Not all courses may be offered in any one year.

Part II: A thesis (HAZM 690).

P: Part I:
(1) 15 points of 100-level STAT courses or equivalent; and
(2) 84 points from 300-level courses in the BSc schedule passed with a grade average that meets the approval of the Head of the Department of Geological Sciences (the normal requirement is at least a B grade average); plus

Part II: Completion of Part I. In order to proceed to Part II, the Head of the Department of Geological Sciences normally requires the student to have attained a B+ grade average or better 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 (Hazard and Disaster Management).

History and Philosophy of Science

Part I: Courses from HAPS 401-433/HAPS 480 to total overall minimally 1.00 EFTS, the selection to be approved by the Co-ordinator(s) of HPS Studies, in consultation with the Heads of Department/Schools in which the courses selected are taught. Normally these courses will include HAPS 401 and HAPS 402. With the approval of the Co-ordinator(s) of HPS Studies, as much as 0.250 EFTS may be drawn from 400-level courses outside the HAPS list.

Part II: A thesis (HAPS 690). The credit weighting of Parts I and II shall be 1:1.

P: 84 points in 300-level courses of the BSc degree approved by the Coordinator of HPS Studies.

Management Science

Part I: 120 points (or equivalent) selected from MSCI 601-680 with approval of the Head of the Department of Management.

Part II: A thesis (MSCI 690).

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

P: At least 84 points at 300-level, normally including:
(1) MSCI 301 or (MSCI 315 and 316);
(2) MSCI 302 or (MSCI 310 and 311).

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; one of these courses may be replaced by an appropriate course from another subject, the choice of courses is subject to the approval of the Programme Director.

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

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

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 of these courses may be replaced by an appropriate course from another subject, the choice of courses issubject to the approval of the Programme Director.

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

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

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

Microbiology

Part I: Four courses. BIOL 492 and BIOL 493 plus a further two courses selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

Part II: A thesis (MBIO 690) which shall normally be presented no later than 16 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) BIOL 313; and
(2) One course selected from BIOL 331, BCHM 301, BIOL 330.

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

Philosophy

Part I: Eight courses 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 (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 401-460. At least three courses from PHYS 401-440. 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.

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

In determining the class of honours, Parts I and II are weighted in the ratio 2:3. 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 and PHYS 312 and those with an interest in theoretical physics papers will normally be expected to have taken PHYS 326.

Plant Biology

Part I: Four courses to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 421, BIOL 430-432, BIOL 434-436, BIOL 453, BIOL 471-474, BIOL 476, BIOL 478, BIOL 479, BIOL 490-493.

Part II: A thesis (PBIO 690) which shall normally be presented no later than 16 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: 90 points from 300-level BIOL courses

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

Psychology

Part I: Courses totalling 120 points (1 EFT) from PSYC 401-474.

Part II:

(a) PSYC 695 Psychology MSc Thesis
(b) For students who have not already been credited with PSYC 460 or PSYC 464, PSYC601 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.

Seafood Sector: Management and Science

Not offered as a subject major.

SEAF 401 The Seafood Sector: The Management and Science Behind Fisheries and Aquaculture

This interdisciplinary course may be included as part of an MSc Part I programme with the approval of the Head of Department for your major.

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)
(b) CMDS 695 MSLS Thesis (0.875 EFTS)

P: Four-year Bachelor of Speech and Language

Therapy degree or an approved equivalent qualification.

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). 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

Part I: Four courses to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 421, BIOL 430-432, BIOL 434-436, BIOL 451, BIOL 470-474, BIOL 476, BIOL 479, BIOL 490.

Part II: A thesis (ZOOL 690) which shall normally be presented no later than 16 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: 90 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

Programme of Study

All candidates for the degree must complete Part II. Some candidates must complete both Parts I and II, and candidates are referred to Regulation 3 which explains what the requirements are for candidates with the various entry qualification.

Part I

Part I normally consists of courses prescribed for the subject, and which have a total course weighting of at least 1.0. The Prescriptions Section of the Calendar must be referred to for details of the requirements for each subject.

In Astronomy, Geography, and Physics, the prescribed courses include a research project. Regulations 7 allows a candidate, with the approval of the Head of Department/School, to replace up to 0.5 course weight of the prescribed programme with courses prescribed for another subject at an equivalent level, and in such cases the total course weight for Part I must be at least 0.95.

Part II

Part II consists of a thesis, except in Applied Psychology where Part II consists of course work with a weighting of 0.25 and a Research Project of weighting 0.75.

Time Limits and the Weighting of Parts I and II

Note: The time limits noted below are for full-time study. Candidates who wish to study on a part-time basis should refer to Regulations 5 and 6.

Subject	Max. time limit (months) for Part II only if taken alone or sequentially*, and retaining eligibility for Honours or Distinction/Merit	Max. time limit (months) for Part II only if taken alone or sequentially*, without eligibility for Honours or Distinction/Merit	Max. time limit (months) for Parts I and II if taken concurrently* and retaining eligibility for Honours	Max. time limit (months) for Parts I and II if taken concurrently* and without eligibility for Honours	Weighting ratio Part I to Part II
Applied Psychology	12	12	24	24	1:1
Astronomy	12	12	24	24	2:3
Biochemistry	16	24	28	36	2:3
Biotechnology	16	24	28	36	2:3
Cellular and Molecular Biology	16	24	28	36	2:3
Chemistry	12	24	24	36	2:3
Child and Family Psychology	24	24	36	36	1:1
Computational and Applied Mathematics	24	24	36	36	1:2
Computer Science	16	24	28	36	1:2
Ecology	16	24	28	36	2:3
Engineering Geology	16	24	28	36	1:2
Environmental Science	16	24	28	36	2:3
Evolutionary Biology	16	24	28	36	2:3
Geography	12	12	24	24	1:1
Geology	16	24	28	36	1:2
Hazard and Disaster Management	16	24	28	36	1:2
History and Philosophy of Science	24	24	36	36	1:1
Management Science	12	24	24	36	1:1
Mathematics	24	24	36	36	1:2
Medical Physics	12	12	24	24	2:3
Medical Physics (Clinical)	12	12	24	24	2:3
Microbiology	16	24	28	36	2:3
Philosophy	24	24	36	36	1:1
Physics	12	12	24	24	2:3
Plant Biology	16	24	28	36	2:3
Psychology	24	24	36	36	1:1
Speech and Language Sciences	12	12	N/A	N/A	N/A
Statistics	24	24	36	36	1:2
Zoology	16	24	28	36	2:3

Note: For the purposes of calculating time limits, the nominal dates for most candidates are either 1 March or 1 August, depending on whether the candidate first enrolled at the start of the first or second semester.

Candidates who enrol in Part II only, to do a thesis, may start at any time, subject to the approval of the Head of Department/School, and for such candidates the time limits given here will be calculated from the actual start date, which must be recorded in the College of Science. Candidates who complete both Parts I and II sequentially may delay the start of Part II, and record a specific start date, but candidates doing this should be aware or Regulation 15(d) which requires completion of both Parts I and II within three years of the commencement of Part I, if eligibility for Honours is to be retained.

**See Regulation 4 for an explanation of concurrent and sequential enrolment in Parts I and II. Concurrent enrolment requires approval of the Head of Department/School, and a grade average of B+ in prerequisite courses.*

***Time limits in Applied Psychology are slightly less than 12 and 24 months, so that the research project required for Part II must be completed not later than the first Monday in February.*

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. be 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 Antarctic Studies (PGDipAntaStud)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Diploma

Every candidate for the Postgraduate Diploma in Antarctic Studies, 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 Antarctic Studies.

(b) been approved as a candidate by the Dean of Science.

2. Award of the Diploma with Distinction or Merit

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

Note: The award of Distinction indicates a grade aver-

age in the range A+ to A-; the award of Merit indicates a grade average of B+.

3. Structure of the Course

(a) All students admitted to the Postgraduate Diploma in Antarctic Studies will complete a coherent programme of study approved by the Chair of the Board of Studies: Antarctic Studies.
(b) The requirements for the Postgraduate Diploma in Antarctic Studies shall be ANTA 401 and ANTA 402 and other 400-level 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 Chair of the Board of Studies: Antarctic Studies. The total course weight for the Postgraduate Diploma in Antarctic Studies will be at least 1.00 EFTS.
(c) At the discretion of the Board, an approved course of study may include up to a total of 0.5 EFTS in 400-level courses or higher from another New Zealand or overseas institution.
(d) Candidates must satisfy the Chair of the Board of Studies: Antarctic Studies, that they have the necessary prerequisite knowledge to undertake the proposed courses from the Schedule.
(e) Candidates who have completed the Postgraduate Certificate in Antarctic Studies with Distinction will be exempt from ANTA 401.

4. Full-time/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.

5. 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 Chair of the Board of Studies: Antarctic Studies. Normally, the maximum period for part-time study is four years.

6. Repeating of Courses

(a) A candidate who fails any of the courses offered will require the permission of the Dean of Science and approval of the Chair of the Board of Studies: Antarctic Studies, 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 6(a) shall not be awarded the Postgraduate Diploma in Antarctic Studies, but will be awarded a Certificate of Proficiency for each course passed at the University of Canterbury.

7. Transfer from Postgraduate Diploma in Antarctic Studies to Master of Antarctic Studies

If the courses passed for the Postgraduate Diploma in Antarctic Studies satisfy the requirements for Part I of the Master of Antarctic Studies and if the candidate meets the standard required by the Board of Studies: Antarctic Studies (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 Antarctic Studies in lieu of being awarded the Diploma; or
(b) to enter the degree of Master of Antarctic Studies under Master's Regulation 2(a)(i).

Schedule to the Regulation for the Postgraduate Diploma in Antarctic Studies

(a) ANTA 401 Antarctic Global Connection, compulsory (0.3750 EFTS)
(b) ANTA 402 Antarctic Legal System, compulsory (0.1250 EFTS)

Other 400-level courses relevant to a coherent programme of study. A total course weighting of at least 1.0 EFTS must be completed

Note: Courses other than those on the above Schedule will be approved by the Board of Studies: Antarctic Studies, for inclusion in a candidate's course of study.

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 Masters degree in Psychology on entry into the Diploma must concurrently enrol in either a Masters or PhD in Psychology (see Regulation 2 and 3) and complete the degree before they can graduate with the Diploma.

Candidates with a Masters 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 Masters 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 Masters 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 the 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 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 Masters 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.*

Schedule to the Regulations for the Postgraduate Diploma in Clinical Psychology

Year 1: 0.6 EFTS

Course Code	Course Title	EFTS	2011	P/C/R/RP/EQ
PSYC 641	Advanced Psychopathology	0.2500	W	P: Subject to approval of the Head of Department.
PSYC 642	Psychometric Assessment Methods	0.1500	W	P: Subject to approval of the Head of Department.
PSYC 643	Year 1 Practicum	0.2000	W S2	P: Subject to approval of the Head of Department.

Year 2: 0.6 EFTS

Course Code	Course Title	EFTS	2011	P/C/R/RP/EQ
PSYC 651	Psychotherapeutic Methods	0.2500	W	P: Subject to approval of the Head of Department.

PSYC 653	Year 2 Practicum	0.2500	W	P: Subject to approval of the Head of Department.
PSYC 654	Comprehensive Exam in Clinical Psychology	0.1000	W	P: Subject to approval of the Head of Department.

Year 3: 1.0 EFTS

Course Code	Course Title	EFTS	2011	P/C/R/RP/EQ
PSYC 661	Advanced Topics in Clinical Psychology 1	0.2500	W	P: (1) PSYC 651, PSYC 653, PSYC 654 (2) Entry is subject to approval of the HOD.
PSYC 662	Advanced Topics in Clinical Psychology II	0.2500	W	P: (1) PSYC 651, PSYC 653, PSYC 654 (2) Entry is subject to approval of the HOD
PSYC 670	Internship in Clinical Psychology	0.5000	A	P: PSYC 651, PSYC 653, PSYC 654. Entry is subject to HOD approval. C: PSYC 661, PSYC 662.
PSYC 671	Internship in Clinical Psychology A - Part-time	0.2500	W	P: (1) PSYC 651, PSYC 653, PSYC 654 (2) Entry is subject to approval of the HOD C: PSYC 661, PSYC 662 R: PSYC 670
PSYC 672	Internship in Clinical Psychology B - Part-time	0.2500	W	P: PSYC 651, PSYC 653, PSYC 654, PSYC 671 C: PSYC 661, PSYC 662 R: PSYC 670

Postgraduate Diploma in Engineering Geology (PGDipEngGeol)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Diploma

Every candidate for the Postgraduate Diploma in Engineering Geology shall have:

(a) either:
  i. qualified for the award of the Degree of Bachelor of Science in New Zealand, majoring in Geology or Earth Sciences; or
  ii. qualified for the award for the Degree of Bachelor of Engineering in New Zealand, majoring in Civil 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); and

(b) have been approved as a candidate by the Dean of Science.

Notes:

1. *Relevance of undergraduate studies to Engineering Geology and standard of achievement are the main criteria for approval. Canterbury students who qualify for entry under Regulation 1(a)(i) will normally be required to have passed GEOL 351 and GEOL 352, and 56 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). In addition, 15–18 points of MATH 100-level courses are required. This may be waived by the Head of Department if the student can demonstrate an existing suitably high level of ability in Mathematics.*
2. *Candidates seeking admission may be required to pass a qualifying programme prior to commencing the Postgraduate Diploma in Engineering Geology or students may be required to undertake studies concurrently.*
3. *A relevant tertiary qualification plus work experience may be deemed appropriate for entry to the Diploma.*

2. Programme of Study

The programme of study consists of ENGE 471, ENGE 472, ENGE 485, ENGE 486, ENGE 495, at least one course chosen from GEOL 473-489 and at least one course chosen from ENGE 476-482 (as for Engineering Geology BSc(Hons)), with the approval of the Head of the Department of Geological Sciences.

If the candidate is enrolled as a full-time student, the courses must be passed in one year. Part-time enrolment requires the approval of the Dean of Science, and a part-time student must follow a programme of study within time limits determined

by the Dean of Science following recommendations of the Head of Department.

Notes:

1. *With the approval of the Head of the Department of Geological Sciences, one of the courses ENGE 471-486 may be replaced by one other ENGE course.*
2. *With the approval of the Head of the Department of Geological Sciences, up to two courses from GEOL 473-489 may replace up to two of the optional courses, or one full year course from another subject may replace two of the optional courses.*
3. *The time limit for a candidate studying part-time shall normally be two years .*

3. 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 Science , 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, 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 3(b), will be awarded a Certificate of Proficiency for each course passed.

(d) Notwithstanding 3(a), 3(b) and 3(c), a candidate who qualifies for an aegrotat award in some or all of his or her 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; or

ii. to present all or some of those courses once at a subsequent examination; and his or her eligibility for Distinction shall not be affected.

4. Award of Diploma with Distinction or Merit

The Postgraduate Diploma in Engineering Geology 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. Transfer from PGDipEngGeol to MSc Part II

If the courses passed for the Diploma also satisfy the requirements for Part I of the MSc, and if the courses 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 either:

(a) to have the courses transferred to the Degree of Master of Science in lieu of being awarded the Diploma; or

(b) to enter for the Degree of Master of Science under Regulation 2(a)(v) if the Diploma has been awarded.

6. Award of PGDipEngGeol instead of MSc Part I

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

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 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 Geographic Information Science; and

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

2. Admission to the Diploma

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 as 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/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

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 University of Victoria)
(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) (May not be offered in 2011)

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.

Postgraduate Diploma in Industrial and Organisational Psychology (PGDipIndOrgPsyc)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Diploma

Every candidate for the Diploma in Industrial and Organisational Psychology, before enrolling for a course of study for the diploma, shall have:
(a) qualified for the Degree of Bachelor of Arts with Honours in Psychology or Master of Arts, or Bachelor of Science with Honours in Psychology or Master of Science; and
(b) completed such work that is judged by the Head of Department, Psychology, to be equivalent to the University of Canterbury degree of Master of Science in Applied Psychology.

2. Diploma Requirements

To qualify for the diploma a candidate must satisfy the following conditions:
(a) present a certificate, from an organisation approved by the Head of Department of Psychology, stating that the candidate has been employed full-time for at least one year either as a psychologist or in a position in which the practice of psychology is a significant component;
(b) submit for assessment six reports of cases, or projects, approved by the Head of Department of Psychology, and completed since enrolling for the diploma;
(c) complete such additional readings and exercises as the Head of Department may require;
(d) pass an oral and practical examination.

3. Application to Sit Examination

A candidate shall give notice in writing by 1 September in any year, of their intention to sit the examination.

4. Timing of Examinations

Examinations will be held by the University at regular intervals.

5. Award of Diploma with Distinction or Merit

The Postgraduate Diploma in Industrial and Organisation Psychology may be awarded with Distinction or Merit.

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

Schedule to the Regulations for the Postgraduate Diploma in Industrial and Organisation Psychology

PSYC 501 Diploma in Industrial and Organisation Psychology 1.0000 EFTS

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, Biotechnology, Cellular and Molecular Biology, Chemistry, Computer Science, Computer Security and Forensics, Ecology, Environmental Science, Evolutionary Biology, Geography, Geology, Hazard and Disaster Management, History and Philosophy of Science, Management Science, Mathematics, Medical Physics, Microbiology, Philosophy, Physics, Plant Biology, Psychology, Statistics, Zoology.

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

Astronomy

Either: ASTR 424, PHYS 407, ASTR 480 and four courses, as follows:

(a) at least one course from ASTR 421–423, 425–426
(b) the remainder from PHYS 401–460, but no more than two courses from PHYS 441–460.

Or: ASTR 424 and seven courses, as follows:

(a) at least one course from ASTR 421–423, 425–426
(b) the remainder from ASTR 430, PHYS 401–460, but no more than three courses from PHYS 441–460.

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: 60 points in 300-level ASTR or PHYS courses approved by the Head of Department.

Biochemistry

Courses totalling at least 1.0 EFTS as for Biochemistry honours, selected with the approval of the Programme Co-ordinator. Courses normally selected from BCHM 401 (BIOL 436), BCHM 403 (BIOL 435), BCHM 405 (BIOL 434), BCHM 406 (BIOL 430), BCHM 420, and CHEM421–422. Other suitable courses include: BCHM 407–409, BIOL 431–432, BIOL 451, BIOL 491.

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.

Biotechnology

Four courses. BIOL 491 plus at least two other courses selected from BIOL 430–435, BIOL 453, BIOL 492, BIOL 493. The fourth course should be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P. (1) BIOL 252 or BIOL 254 and BIOL 255; and
(2) BIOL 352; and
(3) one course selected from BIOL 313, BIOL 330, BIOL 331.

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

Cellular and Molecular Biology

Four courses. At least three courses are to be selected from BIOL 430–436, BIOL 491, BIOL 493. The fourth course should be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P: Three courses from BCHM 301, BIOL 313, BIOL 330, BIOL 331, BIOL 351, BIOL 352.

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

Chemistry

All four courses from CHEM 421–424, plus a project report on practical work. 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.

Computer Science

Eight courses chosen from COSC 401–439, 461–475.

P: 60 points at 300-level in the same subject.

Computer Security and Forensics

Six courses, including COSC 407, COSC 424, COSC 425, COSC 429, COSC 430, COSC 435. Two additional courses from 400-level COSC and MATH 409(Cryptology) can be selected with permission from the Head of Department.

With permission from the Head of Department, two of the core courses may be substituted with other 400-level computer science papers.

Ecology

Four courses to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 421, BIOL453, BIOL 470–479, BIOL 490, ENVR 410, ENVR 411, FORE 616.

P. (1) 60 points from BIOL 370–379; and

(2) BIOL 309 or BIOL 301 or equivalent (eg, GEOG 309 or PSYC 206).

Environmental Science

ENVR 410 and 411, plus selected courses as for MSC Part I, with the approval of the Course Co-ordinator

P: 84 points in appropriate 300-level courses in Science, Engineering, and Forestry approved by the Co-ordinator.

Note: Normally all prerequisites must be satisfied.

Evolutionary Biology

Four courses. At least two courses are to be selected from BIOL 421, BIOL 430, BIOL 431, BIOL 470, BIOL 478. The remaining two courses to be selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P. (1) BIOL 271; and
(2) 60 points from 300-level BIOL courses including at least one of BIOL 330, BIOL 332, 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, 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.

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 ENGE 471–486 (Engineering Geology) or from another relevant subject may replace up to three of the optional courses, or one full year course from another subject may replace two of the optional 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 56 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).

Hazard and Disaster Management

The programme of study consists of HAZM 401, HAZM 403, ENCI 601, ENCI 462 (or equivalent), and four other courses chosen to form a coherent programme in the area of hazard and disaster management with the approval of the Programme Director, Department of Geological Sciences.

Note: Not all courses may be offered in any one year.

P. (1) 15 points of 100-level STAT courses or equivalent; and
(2) 84 points from 300-level courses in the BSc schedule passed with a grade average that meets the approval of the Programme Director (the normal requirement is at least a B grade average).

History and Philosophy of Science

Courses from HAPS 401–433, HAPS 480, to total overall minimally 1.0000 EFTS, the selection to be approved by the Co-ordinator(s) of HPS Studies, in consultation with the Heads of Department/Schools in which the courses selected are taught. Normally these courses will include HAPS 401 and HAPS 402. With the approval of the Co-ordinator(s) of HPS Studies, as much as 0.2500 EFTS may be drawn from 400-level courses outside the HAPS list.

P: 84 points in 300-level courses of the BSc degree approved by the Co-ordinator(s) of HPS Studies.

Management Science

120 points (or equivalent) selected from MSCI 601–679 with approval of the Head of the Department of Management.

P: At least 84 points at 300-level, normally including:
(1) MSCI 301 or (MSCI 315 and MSCI 316)
(2) MSCI 302 or (MSCI 310 and MSCI 311)

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; one of these courses may be replaced by an appropriate course from another subject, the choice of courses is subject to the approval of the Programme Director.

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

Microbiology

Four courses. BIOL 492 and BIOL 493 plus a further two courses selected with the approval of the School of Biological Sciences Fourth Year Coordinator.

P. (1) BIOL 313; and
(2) One course selected from BIOL 331, BCHM 301, BIOL 330, BIOL 352.

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

Philosophy

Eight courses 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.

P: 60 points at 300-level in the same subject.

Physics

Either: PHYS 407 and 480 and five courses chosen from PHYS 401–460, including at least three courses from PHYS 401–440.

Or: Eight courses chosen from PHYS 401–460, including at least five courses from PHYS 401–440.

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: 60 points in 300-level PHYS courses approved by the Head of Department.

Plant Biology

Four courses to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 421, BIOL 430–432, BIOL 434–436, BIOL 453, BIOL 471–474, BIOL 476, BIOL 478, BIOL 479, BIOL 490–493.

P: 60 points from 300-level BIOL courses

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

Psychology

Four full courses (or their half-course equivalents) selected with the approval of the Head of Department from PSYC 401–475. One PSYC 300-level course may be substituted for a PSYC 400-level full course 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.

Seafood Sector: Management and Science

Not offered as a subject major.

SEAF 401 The Seafood Sector: The Management and Science Behind Fisheries and Aquaculture

This interdisciplinary course may be included in your programme of study with the approval of the Head of Department for your major.

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

Four courses to be selected, with the approval of the School of Biological Sciences Fourth Year Coordinator, from BIOL 421, BIOL 430–432, BIOL 434–436, BIOL 451, BIOL 470–474, BIOL 476, BIOL 479, BIOL 490.

P: 60 points from 300-level BIOL courses.

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