Faculty of Engineering and Forestry

The Degree of Bachelor of Engineering with Honours (BE(Hons))

See also General Course and Examination Regulations.

1. Programme of Study Requirements

In order to qualify for the Degree of Bachelor of Engineering with Honours every candidate shall matriculate and thereafter:

(i) pursue a programme of study approved by the Dean of Engineering and Forestry for not less than four years (one year Intermediate and three Professional Years); or three years if exempted from the whole of the Intermediate Year or two years if exempted from the whole of the Intermediate Year and the First Professional Year;

(ii) candidates must pass an approved academic writing test before they will be admitted into the Professional Programme;

(iii) obtain passes in the examinations hereinafter prescribed (Note: In any course which involves laboratory, field, or project work, satisfactory performance in this work is necessary for a pass in the associated examination);

(iv) perform to the satisfaction of the Faculty of Engineering and Forestry the period of approved practical work;

(v) submit an approved valid First Aid Certificate;

(vi) candidates enrolled either full-time or part-time in the Degree of Bachelor of Engineering with Honours must complete the academic and non-academic degree requirements of the three Professional Years in no more than six years.

Note: Candidates admitted directly into any of the Professional Years and candidates who have completed their Engineering Intermediate at another university must pass an approved academic writing test before they will be permitted to progress to the succeeding Professional Year of study.

2. Engineering Disciplines

The degree of Bachelor of Engineering with Honours may be awarded in the following disciplines: Chemical and Process, Civil, Computer, Electrical and Electronic, Forest, Mechanical, Mechatronics and Natural Resources.

3. Admission to BE(Hons) Candidacy

Admission to the BE(Hons) shall be by approval of the Dean of Engineering and Forestry. A candidate may qualify for admission upon successful completion of the Engineering Intermediate Examination principally on the basis of the grades obtained in that Examination.

Notes:

1. *A candidate who is not exempted from the Intermediate Examination will not normally be admitted to the First Professional year unless he or she has passed the whole Intermediate Examination in not more than two years.*
2. *The Dean of Engineering and Forestry reserves the right to decline entry to a student who has been offered a place in the First Professional Year of the BE(Hons) degree and who has not completed their enrolment by the Friday preceding the first day of lectures of semester 1.*

4. Direct Entry to the First Professional Year

A candidate who achieved sufficiently high grades in appropriate NCEA Level 3 subjects, or the New Zealand University Entrance, Bursaries and Scholarships qualification in appropriate subjects, or in other examinations approved by the Dean of Engineering and Forestry for the purposes of this regulation, may be considered for direct entry to the First Professional year of the BE(Hons) degree.

Note: The standard of achievement and range of subjects to which this regulation shall apply shall be established by the Dean who shall have consulted with the relevant Head of Department.

5. Entry to the BE (Hons) with prior learning from a New Zealand tertiary institute

Subject to approval by the Dean of Engineering and Forestry, a candidate who has completed a qualification from a New Zealand tertiary institute with excellent grades may be exempted from the Intermediate Year Examination and, in some cases the First Professional Examination. The approved

course of study shall not normally be less than two years.

Note: In considering a candidate's application for entry to the Bachelor of Engineering (Honours) programme under this clause the Dean of Engineering and Forestry shall take into consideration the candidate's completed course of study, in particular their preparation in Mathematics, and any relevant work experience in industry.

6. Each Professional Examination to be Passed as a Whole

Candidates are expected to pass each Professional Examination as a Whole. In recommending a candidate for a pass in any Professional Examination as a Whole the Dean of Engineering and Forestry shall take into consideration his or her performance in all the courses of that Professional Examination.

A candidate who has failed to pass any Professional Examination as a Whole may, on the recommendation of the Dean of Engineering and Forestry, be credited with a course or courses of that Professional Examination. The candidate may then present in a subsequent year the remaining subjects of that Examination together with such courses of the succeeding Professional Examinations, if any, as the Dean may permit. The candidate may pass such a composite Examination under the same conditions as set out above.

Notes:

1. *The Intermediate Examination may be passed in accordance with the provisions of this regulation or subject by subject. However, candidates' attention is drawn to Schedule 1 of the Limitation of Entry Regulations.*
2. *Candidates are normally not permitted to enrol in any engineering courses of the Third Professional Examination prior to completion of the First Professional Examination.*

7. Reports

Where a report is required it shall describe the work done by the candidate in an investigation on a subject approved by the Head of the Department concerned. The investigation shall be carried out by the candidate under the supervision of a university teacher at a university institution.

8. Requirements in Subjects in Other Degrees

A candidate wishing to be enrolled in any subject which is also a subject of examination for another degree shall comply with such of the regulations for that degree relating to prerequisites, combinations of subjects, and practical work, as are applicable to that subject.

9. Completion of Practical Work and First Aid Requirements

Before a candidate may be admitted to a degree he or she shall have complied with the requirements of Regulation 1(iii) and (iv) above.

Practical work will be credited to a candidate's course only if performed in accordance with the following requirements.

1. A candidate shall complete an approved course of workshop training. Unless granted exemption this course shall be completed before a candidate enrols for any subject of the Second Professional Examination irrespective of level of course at which a student enters. Note: BSc students intending to enter the College of Engineering should consult the Head of the Department concerned during the final year of their BSc degree.
2. A candidate shall complete at least 120 days of approved practical work, normally in no more than three periods. Details of the nature of the work required by each Department may be obtained from the College of Engineering Office or on the website: http://www.engf.canterbury.ac.nz/practical.
3. Prior to commencement of each period of employment a candidate shall notify the College of Engineering Office of details concerning the employment. The appropriate form can be obtained from the College of Engineering Office or from the College website. Note: Candidates seeking practical work should consult the job opportunities displayed on the practical work noticeboard in the south foyer, College of Engineering. Lists of employers' addresses are available at the College of Engineering Office.
4. A candidate shall submit two satisfactory written reports covering different types of practical work. Reports shall be submitted not later than the 1 April immediately following the period of work reported on. Different deadlines apply to students wishing to graduate (see 6). Each report shall remain confidential to the student and the College of Engineering and shall not be disclosed to any other party. Note: Practical work will be credited to a candidate's course only after a satisfactory report is received from the candidate's employer.

5. Practical work shall be credited on the following basis:
   (a) Credit is given only for hours worked;
   (b) A day is defined as eight (8) hours work;
   (c) Not more than 60 hours are credited in any one week.
6. Students wishing to graduate at a ceremony during Semester 1 must have completed all practical work requirements by the first Monday in March. Those wishing to graduate at a December ceremony must have completed all practical work requirements by the first Monday in November.
7. On receipt of a written application accompanied by supporting documents from a student who has served an indentured engineering apprenticeship or who has performed similar work for a satisfactory period, the Faculty may accept such work as partial or total exemption from the above practical work requirements.
8. The Faculty may relax or modify the application of clauses 1 to 7 in individual cases.

10. Class of Honours

The degree of Bachelor of Engineering 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 by the candidate's performance in the Second and Third Professional years.

Note: Candidates may enquire from the Dean of Engineering and Forestry as to Faculty's policy in this matter.

11. BE without Honours

Candidates who have passed all courses and completed all other requirements for a BE(Hons) but whose performance in the courses is deemed by the Dean of Engineering and Forestry, upon recommendation by the examiners, not to be of Honours standard will be awarded a degree of Bachelor of Engineering without Honours.

12. Concurrent Enrolment in BE(Hons) and BSc Degrees

A candidate who enrols concurrently for the Degree of Bachelor of Science and Bachelor of Engineering with Honours shall, in order to qualify for the award of both degrees, be enrolled for a course of study approved under the provisions of the General Course and Examination Regulation A3 for a period of at least five years or for at least four years if exempted the whole Intermediate Examination, and shall:

(a) meet all requirements as laid down in the current regulations for the Degree of Bachelor of Engineering with Honours;
(b) obtain 172 points by passing 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 Engineering (Hons), or used to obtain exemption from a course in that degree. At least 84 of these points shall be at 300-level, at least 56 shall be from a single subject or as required by the subject matter. Students admitted into the Bachelor of Engineering (Hons) under BE(Hons) Regulation 4 must complete the 172 points as described above.

13. Concurrent Enrolment in BE(Hons) and BCom

A candidate who enrols concurrently in the Degree of Bachelor of Engineering (Hons) and the Degree of Bachelor of Commerce may be exempt from one (or two) of the optional courses listed in the Regulations of the relevant Third Professional year provided that the candidate takes a course (or courses) worth at least 18 points (or at least 36 points) from the Commerce schedule to be credited to the Degree of Bachelor of Commerce. The exemption(s) must be as approved by the Head of the relevant Engineering Department.

Note: Students shall also consult the BCom regulations about the total number of cross-credits permitted between degrees.

14. Intermediate Examination

Courses selected in accordance with the Schedules A and B set out below to make up a total of at least 120 points, but no more than 144 points.

Schedule A – Compulsory for all Engineering Intermediate students

(1) ENGR 101 Foundations of Engineering 15 pts
(2) EMTH 171 Mathematical Modelling & Computation 15 pts
(3) MATH 108 Mathematics 1C 18 pts
(4) MATH 109 Mathematics 1D 18 pts

Schedule B – Engineering specialisations

Chemical and Process Engineering

(1) CHEM 113 Engineering Chemistry 18 pts
(2) PHYS 113 Waves, Thermodynamics and Materials 18 pts
(3) one 100-level elective course 18 pts

Civil Engineering, Forest Engineering, Mechanical Engineering, or Natural Resources Engineering

(1) CHEM 113 Engineering Chemistry 18 pts
(2) PHYS 113 Waves, Thermodynamics and Materials 18 pts
(3) ENGR 102 Engineering Mechanics 18 pts

Computer Engineering

(1) PHYS 114 Electrical and Quantum Physics 18 pts
(2) COSC 121 Computer Science 1A 18 pts
(3) COSC 122 Computer Science 1B 18 pts

Electrical and Electronic Engineering

(1) PHYS 113 Waves, Thermodynamics and Materials 18 pts
(2) PHYS 114 Electrical and Quantum Physics 18 pts
(3) And at least one of:
    (a) CHEM 113 Engineering Chemistry 18 pts
    (b) COSC 121 Computer Science 1A 18 pts
    (c) ENGR 102 Engineering Mechanics 18 pts

Mechatronics Engineering

(1) PHYS 113 Waves, Thermodynamics and Materials 18 pts
(2) PHYS 114 Electrical and Quantum Physics 18 pts
(3) ENGR 102 Engineering Mechanics 18 pts

Notes:

1. *Candidates will be enrolled in PHYS 111 or PHYS 113 according to their performances in the Physics and Mathematics with Calculus papers taken for their secondary school qualifications (NCEA or other approved qualifications).*
2. *Each of the Engineering Intermediate Courses is a prerequisite for the Engineering First Professional Course, so that a C- grade does not normally allow entry into the Engineering programmes. On the recommendation of the Dean of Engineering and Forestry, however, the examiners may pass a candidate in the Engineering Intermediate Examination as a whole, as a result of overall performance in the Intermediate courses.*
3. *A student may enquire from the Dean as to the Faculty's policy on restricted passes as described in the General Course and Examination Regulations.*
4. *Recommended courses for Chemical and Process Engineering elective: CHEM 112 General Chemistry B (18 pts).*

15. Intermediate Examination from Another University

A candidate may complete an approved Intermediate Examination at another university. Admission to the BE(Hons) programme will be principally on the basis of grades obtained in that examination.

Note: The requirements at a particular university may be found in that University's Calendar or by enquiry to the College of Engineering Office.

16. Replacement of Intermediate Examination Subjects

A candidate for admission to the Bachelor of Engineering with Honours who intends to qualify through the Intermediate Examination and has obtained high marks in one or more subjects in Level 3 NCEA, or the New Zealand University Entrance, Bursaries and Scholarships qualification and also obtained an 'A' Bursary, may be allowed to vary his or her course of study for that Examination. With the consent of the Dean of Engineering and Forestry, the Engineering Intermediate Examination course equivalents of each of the subjects in which high marks were obtained may be replaced by another course. Normally permission will be given for only one such replacement.

Each candidate must have the Engineering Intermediate course change approved by the Dean of Engineering and Forestry.

Chemical and Process Engineering

18. First Professional Examination

(1) EMTH 210 Engineering Mathematics
(2) EMTH 271 Mathematical Modelling and Computation 2
(3) ENCH 241 Engineering Chemistry 2
(4) ENCH 281 Principles of Biology for Engineers
(5) ENCH 291 Chemical Process Technology
(6) ENCH 292 Transfer Operations and Thermodynamics
(7) ENCH 293 Fluid Mechanics 1
(8) ENCH 294 Process Engineering Design 1

19. Second Professional Examination

(1) ENCH 350 Process Systems Engineering (two course weight)
(2) ENCH 351 Chemical Reaction Engineering
(3) ENCH 352 Thermodynamics 2
(4) ENCH 353 Heat Transfer Operations
(5) ENCH 354 Fluid Mechanics 2
(6) ENCH 360 Chemical Engineering Separations
(7) ENCH 363 Process Engineering Design 2
(8) ENCH 371 Chemical Engineering Laboratories 2

(9) One of the courses (a) to (h) listed below:
  (a) ENCH 323 Special Topic: Engineering Biochemistry
  (b) ENCH 380 Bioprocess Engineering
  (c) ENCH 421 Industrial Pollution Control
  (d) ENCH 422 Energy Resource Management
  (e) ENCH 427 Wood Process Science (Chemical)
  (f) ENCH 429 Engineered Wood Products
  (g) ENCH 458 Advanced Chemical Engineering Materials
  (h) ENCH 459 Chemical Engineering Mathematics

Note: Not all the courses 9 (a) to (h) will be necessarily available in any one year and prospective candidates should consult the Head of Department concerning the courses to be taught.

20. Third Professional Examination

(1) ENCH 450 Process Control
(2) ENCH 460 Process Management
(3) ENCH 463 Process Engineering Design 3 (three course weight)
(4) ENCH 471 Research Project 1
(5) FOUR of the courses (a) to (p) listed below:
  (a) ENCH 421 Industrial Pollution Control
  (b) ENCH 422 Energy Resource Management
  (c) ENCH 427 Wood Process Science (Chemical)
  (d) ENCH 429 Engineered Wood Products
  (e) ENCH 451 Advanced Process Control
  (f) ENCH 452 Thermodynamics 3
  (g) ENCH 455 Engineering Systems
  (h) ENCH 457 Special Topic in Chemical and Process Engineering
  (i) ENCH 458 Advanced Chemical Engineering Materials
  (j) ENCH 459 Chemical Engineering Mathematics
  (k) ENCH 467 Special Topic
  (l) ENCH 472 Research Project II
  (m) ENCH 473 Research Project III (two course weight)
  (n) ENCH 480 Industrial Bioprocess Engineering
  (o) ENCH 481 Bioprocess Engineering II
  (p) ENGR 401 Introduction to Computational Fluid Dynamics

Subject to the approval of the Head of Department a candidate may offer in place of one of the courses under (5), courses which, in total, are equivalent to at least 18 points, provided that the candidate satisfies the necessary prerequisites for each course concerned and that none of the courses have been credited towards a degree course. A candidate's choice of courses shall be approved by the Head of Department.

Notes:

i. Not all courses 5(a) to (p) will necessarily be available in any one year and prospective candidates should consult the Head of Department concerning the courses to be taught.

ii. ENCH 473 may replace two (2) electives from the list 20(5) at the approval of the Head of Department. It is restricted against ENCH 472.

iii. Candidates enrolled in ENCH 473 must be enrolled in ENCH 471 in the same semester.

Civil Engineering

21. First Professional Examination

(1) EMTH 210 Engineering Mathematics
(2) EMTH 271 Mathematical Modelling and Computation 2
(3) ENCI 211 Design Studio 1
(4) ENCI 230 Mechanics of Materials
(5) ENCI 234 Structural Engineering 1
(6) ENCI 241 Fluid Mechanics 1
(7) ENCI 252 Geotechnical Engineering 1
(8) ENCI 262 Survey, Transport and GIS
(9) ENCI 271 Engineering Geology and Hydrology
(10) ENNR 203 Environmental Quality and Ecosystems

Note: Students are required to attend the First Professional Examination Camp. Work at the camp will form part of the assessment for ENCI 262 Survey, Transport and GIS.

22. Second Professional Examination

(1) ENCI 302 Engineering Mathematics 3 (Civil)
(2) ENCI 303 Engineering Decision-making
(3) ENCI 312 Design Studio 2
(4) ENCI 332 Structural Concrete
(5) ENCI 333 Structural Steel
(6) ENCI 334 Computational Mechanics
(7) ENCI 341 Fluid Mechanics 2
(8) ENCI 351 Geotechnical Engineering 2
(9) ENCI 363 Infrastructure Management
(10) ENCI 383 Environmental Engineering

Note: Students are required to attend the Second Professional Examination Camp. Work at the camp will form part of the assessment for ENCI 363 Infrastructure Management.

In lieu of ENCI 302 Engineering Mathematics 3 (Civil) a candidate may offer any 300 or 400-level Mathematics course provided the candidate

can satisfy the prerequisites, the course has not been credited towards a degree, and the Head of the Department of Civil and Natural Resources Engineering provides written approval.

23. Third Professional Examination

(1) ENCI 403 Management of Engineering Systems

(2) Either:

(i) NINE of the courses below:

(a) ENCI 411 History of Civil Engineering
(b) ENCI 412 Traffic Engineering
(c) ENCI 415 Pavement Engineering
(d) ENCI 423 Structural Analysis
(e) ENCI 425 Steel Structures
(f) ENCI 426 Concrete Structures
(g) ENCI 429 Structural Systems
(h) ENCI 445 Coastal and Inland Waters
(i) ENCI 452 Geotechnical Engineering 3
(j) ENCI 462 Geographical Information Systems
(k) ENCI 472 Engineering Geology 2
(l) ENCI 481 Wastewater Treatment Plant Design
(m) ENCI 482 Solid Waste Management
(n) ENCI 496 Special Topic (Semester 1)
(o) ENCI 497 Special Topic (Semester 1)
(p) ENCI 498 Special Topic (Semester 2)
(q) ENCI 499 Special Topic (Semester 2)
(r) ENNR 404 Water Infrastructure and Design
(s) ENNR407 Advanced Hydrology
(t) ENNR 451 Engineering in Developing Communities

OR (ii) EIGHT of the courses listed above and either ENCI 494 Project (first semester) or ENCI 495 project (second semester);

OR (iii) SEVEN of the courses listed above and ENCI 493 Project (full year).

Notes for (2):

1. *Not all courses will be offered in any one year, and prospective candidates should consult the Head of Department concerning which courses will be taught.*
2. *A candidate's choice of courses shall be as approved by the Head of Department. Candidates may not normally enrol for Third Professional courses until they have completed the First Professional year.*
3. *Subject to the approval of the Head of Department, a candidate may offer, in place of one or two courses listed in (2) above, course(s) from other degree programme(s) for which the candidate satisfies the necessary prerequisites. None of the courses can have been credited towards another degree. Approval will be subject to consideration of previous courses taken by the candidate and the suitability of the course to the candidate's degree.*
4. *Approval to enrol in the project courses (ENCI 493, ENCI 494 and ENCI 495) will be subject to the availability of adequate academic supervision and demonstration of previous high academic achievement.*
5. *Subject to the approval of the Head of Department, a candidate may offer, in place of one or two courses listed in (2) above, certain ENCI 600-level courses. Approval will be subject to demonstration of previous high academic achievement.*

Computer Engineering

24. First Professional Examination

(1) ENEL 211 Design and Management 1

(2) ENEL 202 Circuits and Systems

(3) ENEL 203 Principles of Electronics

(4) ENCE 208 C Programming

(5) ENCE 221 Introduction to Computer Systems

(6) (a) EMTH 204 Calculus and Algebra
or both
(b) EMTH 203 Linear Algebra
and
(c) EMTH 202 Calculus

(7) COSC 224 Introduction to Software Engineering

(8) COSC 231 Introduction to Data Communications

Note: Subject to the approval of the Head of Department, a candidate may offer only EMTH 202 as part of the First Professional Examination and defer EMTH 203 until the Second Professional Examination. In special cases the HOD may also approve the substitution of EMTH 210 and EMTH 271 for EMTH 202 and EMTH 203, respectively.

25. Second Professional Examination

(1) ENEL 350 Design and Management 2

(2) ENEL 351 Signals, Systems and Control

(3) ENEL 353 Computer Hardware Engineering 1

(4) At least 48 points from the courses listed (a) to (h) below:

(a) COSC 226 Introduction to Databases
(b) COSC 229 Algorithms or COSC 329 Algorithms and Artificial Intelligence
(c) COSC 324 Advanced Software Engineering
or
COSC 324 Advanced Software Engineering and COSC 325 Software Engineering Group Project

(d) COSC 331 Data Communications and Networks
(e) COSC 363 Computer Graphics
(f) ENEL 332 Communications Engineering 1
(g) ENEL 333 Electronics 1
(h) ENEL 334 Electronic Device Engineering

Notes:

1. *Subject to the approval of the Head of Department, candidates with sufficiently high GPA may be exempt pre-requisite requirements for entry to COSC 329.*
2. *Candidates granted approval to offer only EMTH 202 or EMTH 210 as part of the First Professional year must offer either EMTH 203 or EMTH 271 respectively as one of the courses in 4 above.*

26. Third Professional Examination

(1) ENCE 427 Computer Engineering Project
(2) ENEL 429 Computer Hardware Engineering 2
(3) Not less than 76 points of papers selected from the two schedules below:
  (a) Not less than 20 points from the schedule of:
    (i) COSC 401 Machine Learning
    (ii) COSC 408 Modern Telecommunication Networks (Selected Topics)
    (iii) COSC 411 Advanced Topics in HCI
    (iv) COSC 413 Advanced Topics in Algorithms
    (v) COSC 422 Advanced Computer Graphics
    (vi) COSC 427 Advanced Object Oriented Design
    (vii) COSC 428 Computer Vision
  (b) Not less than 20 points from the schedule of:
    (i) ENEL 430 Control Systems
    (ii) ENEL 433 Communications Engineering 2
    (iii) ENEL 434 Electronics 2
    (iv) ENEL 435 Micro- and Nano-Electronic Device Engineering
    (v) ENEL 438 Economics and Management
    (vi) ENEL 440 Signal Processing

Notes:

1. *Candidates may only attempt ENCE 427 if they are taking sufficient courses to complete the academic requirements of the degree.*
2. *Not all courses from schedules (a) and (b) will necessarily be available in any one year and candidates should consult the Programme Director concerning the courses to be taught and the alternative degree courses that might be approved.*

Electrical and Electronic Engineering

27. First Professional Examination

(1) (a) EMTH 204 Calculus and Algebra
  or both
  (b) EMTH 203 Linear Algebra
  and
  (c) EMTH 202 Calculus
(2) EMTH 205 Engineering Statistics
(3) ENEL 202 Circuits and Systems
(4) ENEL 203 Principles of Electronics
(5) ENEL 204 Electrical Systems
(6) ENEL 206 Principles of Computing
(7) ENEL 211 Design and Management 1

Note: Subject to the approval of the Head of Department, a candidate may offer only EMTH 202 as part of the First Professional Examination and defer EMTH 203 until the Second Professional Examination. In special cases the Head of Department may also approve the substitution of EMTH 210 and EMTH 271 for EMTH 202 and EMTH 203 respectively.

28. Second Professional Examination

(1) ENEL 350 Design and Management 2
(2) ENEL 351 Signals, Systems and Control
(3) Either two courses listed in (4) and two courses listed in (5) or one course listed in (4) and 4 courses listed in (5) or 6 courses listed in (5)
(4) (a) ENEL 352 Electric Power Engineering
  (b) ENEL 353 Computer Hardware Engineering 1
(5) (a) ENEL 323 Computer Software Engineering 1
  (b) ENEL 329 Electromagnetic Engineering 1
  (c) ENEL 332 Communications Engineering 1
  (d) ENEL 333 Electronics 1
  (e) ENEL 334 Electronic Device Engineering
  (f) ENEL 335 Power Electronics 1
  (g) ENEL 340 Special Topic
  (h) ENEL 341 Special Topic
  (i) one COSC 300-level course or one MATH 300-level course or one STAT 300-level course

A candidate's choice of courses shall be as approved by the Head of Department. Subject to the approval of the Head of Department, a candidate may offer in place of one (or two) courses, listed under (5) in this Regulation, any set of degree courses which, in total, is equivalent to at least 18 (or 36) points at 100-level, or 22 (or 44) points at 200-level, or at least 14 (or 28) points at 300-level, provided the candidate satisfies the necessary prerequisites for each course

concerned and that none of the courses have been credited towards a degree.

Notes:

1. *Not all courses (5)(a) to (i) will necessarily be available in any one year. Candidates should consult the Head of Department concerning the courses to be taught and the alternative degree courses that might be approved.*
2. *Candidates granted approval to offer only EMTH 202 or EMTH 210 as part of the First Professional Year must offer either EMTH 203 or EMTH 271 respectively in place of a course in (5)(i) above.*

29. Third Professional Examination

(1) ENEL 427 Project

(2) Five of the courses listed below:

- (a) ENEL 428 Computer Software Engineering 2
- (b) ENEL 429 Computer Hardware Engineering 2
- (c) ENEL 430 Control Systems
- (d) ENEL 432 Electromagnetic Engineering 2
- (e) ENEL 433 Communications Engineering 2
- (f) ENEL 434 Electronics 2
- (g) ENEL 435 MIcro- and Nano-Electronic Device Engineering 2
- (h) ENEL 436 Power Electronics 2
- (i) ENEL 437 Power Systems Engineering
- (j) ENEL 438 Economics and Management
- (k) ENEL 439 Power Engineering Applications
- (l) ENEL 440 Signal Processing
- (m) ENEL 441 Special Topic
- (n) ENEL 442 Special Topic in Electrical and Electronic Engineering

A candidate's choice of courses shall be as approved by the Head of Department.

Notes:

1. *Not all the courses (a) to (n) will necessarily be available in any one year and candidates should consult the Head of Department concerning the courses to be taught and the alternative degree courses that might be approved.*
2. *Candidates may only attempt ENEL 427 if they are taking sufficient courses to complete the academic requirements of the degree.*

Forest Engineering

30. First Professional Examination

(1) EMTH 205 Engineering Statistics

(2) EMTH 210 Engineering Mathematics

(3) EMTH 271 Mathematical Modelling and Computation 2

(4) ENCI 211 Design Studio 1

(5) ENCI 230 Mechanics of Materials

(6) ENCI 234 Structural Engineering 1

(7) ENCI 241 Fluid Mechanics 1

(8) ENCI 252 Geotechnical Engineering 1

(9) ENNR 203 Environmental Quality and Ecosystems

(10) ENFO 204 Forest Measurement

31. Second Professional Examination

(1) ENCI 312 Design Studio 2

(2) ENCI 332 Structural Concrete

(3) ENCI 363 Infrastructure Management

(4) ENFO 327 Wood Science

(5) ENFO 343 Introduction to Forest Engineering

(6) SOIL 203 Soil Fertility

plus any set of degree courses which, in total, is equivalent to at least 18 points and at 300 level, provided the candidate satisfies the necessary prerequisites for each course concerned and that none of the courses has been credited towards a degree course. The choice of course or courses is subject to the approval of the Forest Engineering Committee of the Faculty of Engineering and Forestry.

Candidates are required to attend the Second Professional Examination Camp. Work at the camp will form part of the assessment for ENCI 363 Infrastructure Management.

32. Third Professional Examination

(1) ENCI 415 Pavement Engineering

(2) ENFO 411 Forest Engineering Research and Design

(3) ENFO 420 Harvest System Evaluation

(4) ENFO 422 Harvest Planning

(5) ENFO 423 Forest Transportation and Road Design

(6) ENFO 491 Special Topic

(7) ENFO 492 Special topic

plus any set of degree courses which, in total, is equivalent to at least 18 points and at 400-level, provided the candidate satisfies the necessary prerequisites for each course concerned and that none of the courses has been credited towards a degree course. The choice of course or courses is

subject to the approval of the Forest Engineering Committee of the Faculty of Engineering and Forestry.

Students who go on a forest engineering exchange programme will offer ENCH 429 Engineered Wood Products as their optional course and may offer ENFO 491 Special Topic and/or ENFO 492 Special Topic in lieu of one or more of the courses listed (1) to (7) above. Any substitutions are subject to the approval of the Forest Engineering Committee of the Faculty of Engineering and Forestry

Mechanical Engineering

33. First Professional Examination

(1) Either
  (a) EMTH 210 Engineering Mathematics, or
  (b) MATH 264 Multivariate Calculus and Differential Equations, or
  (c) EMTH 204 Calculus and Algebra (see Note below)
(2) EMTH 271 Mathematical Modelling and Computation 2
(3) ENME 222 Mechanics of Materials A
(4) ENME 223 Mechanics of Machines
(5) ENME 224 Fluid Mechanics A
(6) ENME 225 Engineering Thermodynamics A
(7) ENME 226 Manufacturing Technology
(8) ENME 227 Introduction to Materials Science for Engineers
(9) ENME 211 Elements of Mechanical Design

Note: Those candidates who obtain a sufficiently high grade in their Intermediate Year mathematics course should consider enrolling in, with Head of Department approval, the full year course EMTH 204 Calculus and Algebra rather than the First Semester courses EMTH 210 or EMTH 264.

34. Second Professional Examination

(1) EMTH 391 Engineering Applied Mathematics and Statistics (or another Mathematics course approved by the Head of Department)
(2) ENME 331 Dynamics
(3) ENME 332 Mechanics of Materials B
(4) ENME 333 Control Engineering
(5) ENME 339 Fundamentals of Electronics
(6) ENME 340 Mechanical Engineering Design A
(7) ENME 341 Mechanical Engineering Design B
(8) ENME 345 Thermo-fluids Transport
(9) Two courses selected from:
  (a) ENME 336 Production Management
  (b) ENME 337 Materials and Metallurgical Engineering
  (c) ENME 338 Fundamentals of Power Electronics
  (d) ENME 342 Introduction to Computational Solid Mechanics
  (e) ENME 354 Engineering Thermo-fluids B
  (f) ENME 348 Special Topic
  (g) ENME 349 Special Topic

35. Third Professional Examination

(1) ENME 438 Project
(2) ENME 440 Mechanical System Design – Process
(3) ENME 450 Industrial Management
(4) Six of the courses listed below:
  (a) ENME 432 Mechanics of Vibration
  (b) ENME 433 Modern Control Theory
  (c) ENME 435 Heat and Mass Transfer
  (d) ENME 436 Advanced Manufacturing Technology
  (e) ENME 441 Mechanical System Design – Special Applications
  (f) ENME 442 Applied Computational Solid Mechanics
  (g) ENME 443 Computer Control and Instrumentation
  (h) ENME 445 Energy Engineering
  (i) ENME 448 Special Topic
  (j) ENME 449 Special Topic: Physiological Modelling
  (k) ENME 454 Introduction to Acoustics
  (l) ENME 456 Computer Aided Product Development
  (m) ENME 457 Fracture Mechanics and Failure Analysis
  (n) ENME 464 Biofluid Mechanics
  (o) ENME 465 HVAC Engineering
  (p ENME 466 Manufacturing Optimisation
  (q) ENME 467 Polymeric and Composite Materials
  (r) ENME 474 Aerodynamics
  (s) ENME 477 Polymer Science and Engineering
  (t) ENGR 401 Introduction to Computational Fluid Dynamics
  (u) MDPH 401 Anatomy and Physiology for Medical Physicists

  Note: Not all the courses 4(a) to (u) will necessarily be available in any year, and candidates should consult the Head of Department concerning the courses to be taught.

Subject to the approval of the Head of Department, a candidate may offer up to two courses in place of those courses listed under (4) of this Regulation.

If two such substitute courses are offered, at least one of them must come from within the Faculty of Engineering and Forestry (including not more than one ENME 300-level course in Regulation 34 which has not already been credited towards the degree), provided that the candidate satisfies the necessary prerequisites for the course(s) concerned. A candidate offering a substitute course from outside the Faculty of Engineering and Forestry must also satisfy the necessary prerequisites for the course(s) concerned. That course must also be worth at least 18 points at 100-level, 22 points at 200-level or at least 14 points at 300-level, and not have been credited already to a degree.

The subject ENME 438 is an approved Project, the work of which is required to be described and presented in a written report or reports. The project work and the written report(s) together shall carry the weight of two courses.

Mechatronics Engineering

36. First Professional Examination

(1) Either
  (a) EMTH 204 Calculus and Algebra
  or
  (b) EMTH 210 Engineering Mathematics and EMTH 271 Mathematical Modelling and Computation 2
(2) ENME 222 Mechanics of Materials A
(3) ENME 223 Mechanics of Machines
(4) ENME 225 Engineering Thermodynamics A
(5) ENEL 203 Principles of Electronics
(6) ENEL 206 Principles of Computing
(7) ENMT 201 Introduction to Mechatronics Design

Notes:

1. *Those candidates who obtain a sufficiently high grade in MATH 109 will be admitted into EMTH 204 and encouraged to enrol in EMTH271.*
2. *Subject to Head of Department approval students may offer MATH264 Multivariate Calculus and Differential Equations and EMTH271 Mathematical Modelling and Computation 2 in lieu of (1) (a) or (b).*

37. Second Professional Examination

(1) ENMT 301 Mechatronics System Design
(2) EMTH 391 Engineering Applied Mathematics and Statistics
(3) ENEL 335 Power Electronics 1
(4) ENMT 322 Operations and Quality Management
(5) ENME 331 Dynamics
(6) Either
  (a) i. ENEL 351 Signals, Systems and Control
  ii. ENEL 353 Computer Hardware Engineering 1
  OR
  (b) i. ENEL 351 Signals, Systems and Control
  ii. COSC 361 Microprocessor System 1
  iii. ENEL 333 Electronics 1 or ENEL 323 Computer Software Engineering 1
  OR
  (c) i. ENEL 353 Computer Hardware Engineering 1
  ii. ENME 333 Control Engineering
  iii. ENEL 333 Electronics 1 or ENEL 323 Computer Software Engineering 1
  OR
  (d) i. COSC 361 Microprocessor System 1
  ii. ENME 333 Control Engineering
  And two of the following;
  iii. ENEL 333 Electronics 1
  iv. ENEL 323 Computer Software Engineering 1
  v. ENME 224 Fluid Mechanics A

Notes:

1. *Students with a sufficiently high grade in EMTH 204 may offer an alternative course in lieu of EMTH 391 subject to approval from the Head of Department.*
2. *Subject to approval of the Head of Department a candidate may offer an alternative elective course(s).*

38. Third Professional Examination

(1) ENMT 401 Project (two course weighting)
(2) ENEL 428 Computer Software Engineering 2
(3) ENME 433 Modern Control Theory
(4) Either four or five of the courses (a) to (j) listed below, made up of:

  One (ENME 400-level or ENMT 453) plus 3 ENEL 400-level courses, or

  Two (ENME 400-level or ENMT 453) plus two ENEL 400-level courses, or

  Four (ENME 400-level or ENMT 453) plus one ENEL 400-level courses:

  (a) ENMT 453 Advanced Control
  (b) ENME 443 Computer Control and Instrumentation
  (c) ENME 432 Mechanics of Vibration
  (d) ENME 440 Mechanical System Design (Process)
  (e) ENME 441 Mechanical System Design (Special Applications)
  (f) Either
    i. ENME 450 Industrial Management, or
    ii. ENEL 438 Economics and Management

(g) ENEL 429 Computer Hardware Engineering 2
(h) ENEL 436 Power Electronics 2
(i) ENEL 439 Power Engineering Applications
(j) ENEL 440 Signal Processing

Note: Not all the courses 4(a) to (j) will necessarily be available in any one year, and candidates should consult the Head of the relevant Department (Electrical and Computer or Mechanical Engineering) concerning the courses to be taught.

The subject ENMT 401 is an approved Project, the work of which is required to be described and presented in a written report or reports. The project work and the written report(s) together will carry the weight of two courses.

Natural Resources Engineering

39. First Professional Examination

(1) EMTH 210 Engineering Mathematics
(2) EMTH 271 Mathematical Modelling and Computation 2
(3) ENCI 211 Design Studio 1
(4) ENCI 230 Mechanics of Materials
(5) ENCI 234 Structural Engineering 1
(6) ENCI 241 Fluid Mechanics 1
(7) ENCI 252 Geotechnical Engineering 1
(8) ENCI 262 Survey, Transport and GIS
(9) ENCI 271 Engineering Geology and Hydrology
(10) ENNR 203 Environmental Quality and Ecosystems

Candidates are required to attend the First Professional Year Camp. Work at the camp will form part of the assessment for ENCI 262.

40. Second Professional Examination

(1) ENCI 302 Engineering Mathematics 3 (Civil)
(2) ENCI 303 Engineering Decision-making
(3) ENCI 312 Design Studio 2
(4) ENCI 341 Fluid Mechanics 2
(5) ENCI 363 Infrastructure Management
(6) ENCI 383 Environmental Engineering
(7) ENNR 305 Ecological Engineering
(8) ENNR 306 Integrated Catchment Analysis
(9) ENNR 346 Energy Engineering 1
(10) ENNR 364 Ground Engineering and Geomorphology

Candidates are required to attend the Second Professional Year Camp. Work at the camp will form part of the assessment for ENCI 363.

In lieu of ENCI 302 Engineering Mathematics 3 (Civil), a candidate may offer any 300 or 400-level Mathematics course provided the candidate can satisfy the prerequisites, the course has not been credited towards a degree, and the Head of the Department of Civil and Natural Resources Engineering provides written approval.

41. Third Professional Examination

(1) ENNR 429 Natural Resources Engineering Project
(2) Four electives chosen from:
  (a) ENNR 405 Ecological Engineering 2
  (b) ENNR 422 Water Resources Engineering
  (c) ENNR 423 Energy Engineering 2
  (d) ENNR 431 Bio-resources Engineering
  (e) ENNR 451 Engineering in Developing Communities
(3) Two electives chosen from:
  (a) ENNR 404 Water Infrastructure and Design
  (b) ENNR 407 Advanced Hydrology
  (c) ENCH 421 Industrial Pollution Control
  (d) ENCI 445 Coastal and Inland Waters
  (e) ENCI 481 Wastewater Treatment Plant Design
  (f) ENCI 482 Solid Waste Engineering
(4) Two electives chosen with the approval of the Head of Department from any courses of the University, including those offered by the College of Engineering Departments at both undergraduate and postgraduate level, approximating 0.100 Course Weight and at an appropriate level.

Notes:

1. *Not all courses 2(a) – 2(e) and 3(a) – 3(f) may be offered in any one year and prospective candidates should consult the Head of Department concerning which courses will be taught.*
2. *ENNR 429 Natural Resources Engineering Project is a two-semester course of weight 0.200 EFTS. All other courses in 2 and 3 have Course Weight of 0.100 EFTS. Enrolment in this course requires the candidate to have completed 0.800EFTS of their second professional year requirements.*
3. *None of the elective courses under 4 can have been credited towards another degree. Approval will be subject to consideration of previous courses taken by the candidate and the suitability of the course to the candidate's degree.*

42. Exemption from EMTH 210 or ENCI 302

A candidate is normally granted exemption from EMTH 210 Engineering Mathematics, and independently from ENCI 302 Engineering Mathematics 3 (Civil), provided he or she has passed

Mathematics and Statistics courses for the Degree of Bachelor of Science which duplicate significantly material in the Engineering Mathematics courses.

Note: A list of courses satisfying these requirements in New Zealand universities is available from the Academic Manager in the College of Engineering. Exemption is granted by the Dean of Engineering and Forestry.

43. Student Affected by Change of Regulations

If the course of study of a candidate is affected by a change in any of the above Regulations for the Degree of Bachelor of Engineering with Honours, the examinations which must be passed to complete the degree shall be determined by the Dean of Engineering and Forestry.

The Degree of Bachelor of Engineering (BE)

See also General Course and Examination Regulations.

1. Degree Requirements

Candidates who enrol for the degree Bachelor of Engineering with Honours may be awarded the degree of Bachelor of Engineering if, having passed all courses and completed all other requirements for a BE(Hons), their performance in the courses is deemed by the Dean of Engineering and Forestry, upon recommendation by the examiners, not to be of Honours standard.

Note: Honours standard will normally imply completion of courses in the minimum time and with a grade point average exceeding a minimum set by the Faculty of Engineering and Forestry. Candidates may enquire from the Dean as to Faculty's policy in this matter.

The Degree of Bachelor of Forestry Science (BForSc)

See also General Course and Examination Regulations.

1. Structure of the Degree

Subject to the provisions of the following Regulations, the degree shall consist of a First, Second, Third and Fourth Forestry Examination.

Note: Prescriptions for these Examinations are given elsewhere in the Calendar.

(a) Exemption from the First Forestry Examination

A candidate who has achieved sufficiently high grades in the appropriate NCEA Level 3 subjects or the University Entrance Bursaries Examination (or any other examination approved for the purpose by the Dean of Engineering and Forestry) may substitute other courses for part of or be exempt all or part of the First Forestry Examination.

(b) Pass in Examination as a Whole

Except as hereinafter provided, a candidate shall be expected to pass each Examination as a Whole. In recommending a candidate for a pass in any Examination the Dean of Engineering and Forestry shall take into consideration his or her performance in all the subjects of that Examination.

If a student has passed all of the courses except one of any given Examination, the Dean of Engineering and Forestry may, upon consideration of the student's grades in the successful courses, grant a Pass in the Examination as a Whole.

A candidate who has failed to pass any Examination as a whole, may, on the recommendation of the Dean, be credited with a course or courses of that Examination. The candidate may then present in a subsequent year the remaining courses of that Examination together with such courses of the succeeding Examination, if any, as the Dean may permit. The candidate shall be required to pass such a composite Examination under the same conditions as set out above.

(c) Approval of Course of Study for First Forestry Examination

Candidates who intend to take the First Forestry Examination at either the University of Canterbury or any other New Zealand University are required to have their course of study approved by the Dean of Engineering and Forestry prior to, or at the time of, enrolment.

Forestry Examinations

2. First Forestry Examination

The courses of the First Forestry Examination shall normally be as follows:

(1) BIOL 112 Ecology, Evolution and Conservation
(2) BIOL 113 Diversity of Life
(3) FORE 111 Trees, Forests and the Environment
(4) FORE 121 Forests and People
(5) FORE 131 Trees in the Landscape
(6) FORE 141 Forest Growth and Measurements
(7) FORE 151 Commercial Aspects of Forestry
(8) Either
  (a) STAT 111 Statistics 1, or
  (b) STAT 112 Statistics 1B, or
  (c) STAT 131 Statistics 1A
(9) CHEMISTRY any 18 points at 100-level

Notes:

1. *Students enrolling in Forestry Intermediate at Canterbury must complete FORE 111 and FORE 121. Students completing the First Forestry Examination at another university should complete FORE 102 as part of their examination, in lieu of FORE 111 and FORE 121. FORE 102 is also available for students who are not intending to do Forestry and who are unable to attend FORE 111 or FORE 121 on campus.*
2. *A student can obtain credit for only one of the following courses: FORE 101, FORE 102, FORE 103 and FORE 104, and these courses are restricted against FORE 111 and FORE 121.*
3. *A minimum equivalent of 117 points in approved courses is required to complete the First Forestry Examination.*
4. *A candidate who has failed to gain a pass in all the courses of the First Forestry Examination or a pass in the Examination as a whole may, with the approval of the Dean of Engineering and Forestry, be permitted to repeat the course or courses failed or enrol for approved substitutes concurrently with courses of the Second Forestry Examination.*
5. *The Dean of Engineering and Forestry on taking into account the academic record of a candidate may approve an alternative course of study. Candidates prevented from taking a course through limitation of entry or unavailability at another university should consult the Dean about suitable alternatives.*

3. Second Forestry Examination

The courses of the Second Forestry Examination shall normally be as follows:

(1) FORE 202 Ecology
(2) FORE 215 Introduction to Forest Economics
(3) FORE 216 Surveying and Information Technology in Forestry
(4) FORE 218 Forest Ecosystem Health
(5) FORE 219 Introduction to Silviculture
(6) FORE 222 Biometry 1A
(7) FORE 224 Biometry 1B
(8) SOIL 203 Soil Fertility

Note: A candidate who has failed to gain a pass in all the courses of the Second Forestry Examination or a pass in the Examination as a Whole may, with the approval of the Dean of Engineering and Forestry, be permitted to repeat the course or courses failed or enrol for approved substitutes concurrently with courses of the Third Forestry Examination.

4. Third Forestry Examination

The courses of the Third Forestry Examination shall normally be as follows:

(1) FORE 305 Introduction to Forest Engineering
(2) FORE 307 Plantation Silviculture
(3) FORE 316 Forest Management
(4) FORE 327 Wood Science
(5) either
  (a) two courses chosen from the Bachelor of Forestry Science 400-level elective list; or
  (b) one course from the Bachelor of Forestry Science 400 elective list and at least 22 points for courses offered for any other degree at the 200-level or above.

Notes:

1. *A BForSc student may credit no more than 28 points from other degrees toward BForSc in total in Years three and four.*
2. *A candidate who has failed to gain passes in all the courses of the Third Forestry Examination as a Whole may, with the approval of the Dean of Engineering and Forestry, be permitted to repeat the course or courses failed or enrol for approved substitutes concurrently with courses of the Fourth Forestry Examination.*
3. *FORE 216 Surveying and Information Technology in Forestry is recommended preparation for FORE 305 Introduction to Forest Engineering.*

4. *FORE 222 Biometry 1A, FORE 224 Biometry 1B, FORE 216 Surveying and Information Technology in Forestry in Forestry, FORE 218 Forest Ecosystem Health, FORE 219 Introduction to Silviculture, and SOIL 203 are recommended preparation for FORE 307 Plantation Silviculture.*
5. *FORE 216 Surveying and Information Technology in Forestry and FORE 307 Plantation Silviculture are recommended preparation for FORE 316 Forest Management.*

5. Fourth Forestry Examination

The courses for the Fourth Forestry Examination shall normally be as follows:

(1) FORE 419 Management Case Study
(2) FORE 444 Sustaining Biodiversity on Private Land
(3) FORE 445 Environmental Forestry
(4) and any three electives from
  (a) FORE 404-FORE 407 Special Topics
  (b) FORE 408 Special Topic
  (c) FORE 409 Special Topic
  (d) FORE 422 Forest Harvest Planning
  (e) FORE 423 Forest Transportation and Road Design
  (f) FORE 426 Forest Products Marketing and International Trade
  (g) FORE 435 Forest Economics 2
  (h) FORE 436 Forest Tree Breeding
  (i) FORE 441 Engineered Wood Products
  (j) FORE 442 Application of Information Technology in Forestry
  (k) FORE 443 Biosecurity Risk Management
  (l) FORE 475 Independent Course of Study

Notes:

1. *Electives can include no more than 28 points from courses offered at 300-level or above for any other degree.*
2. *A candidate's course of study shall be subject to the approval of the Dean of Engineering and Forestry.*
3. *Not all courses listed in the option schedule will necessarily be offered in any one year. Prospective candidates should consult the Dean of Engineering and Forestry concerning the courses to be taught.*
4. *A BForSc student may only credit 28 points from other degrees toward a BForSc in total in years three and four.*

6. Field Courses and First Aid Certificate

Every candidate shall complete to the satisfaction of the Board of Studies in Forestry three Field Courses and submit an approved First Aid Certificate.

Practical Work

Candidates are required to obtain practical work experience in forestry, conservation or forest industry during the summer vacations. The School may assist students in obtaining such work, which will be credited to a candidate's course only if performed in accordance with the following requirements:

1. A candidate shall have completed 90 days work in employment approved by the Head of the School of Forestry before admission to the Fourth Forestry Examination.
2. Practical work will be credited to a candidate's course only after confirmation by the candidate's employer of the number of days worked.
3. The Head of the School of Forestry may relax or modify the application of clauses 1 and 2 in individual cases.
4. Candidates are required to submit an approved current First Aid Certificate during the final year of study.

7. Requirements in Subjects in Other Degrees

Except as otherwise provided in these Regulations, a candidate enrolling for any course of the BForSc degree which is also a course for examination for any other degree shall comply with such of the Regulations for that degree relating to prerequisites, combinations of courses and practical work as are applicable to that course.

8. BForSc with Honours

Admission to candidacy for the BForSc with Honours shall be by approval of the Dean of Engineering and Forestry.

A candidate may qualify for admission at the end of Year 3 of the BForSc on the basis of grades in courses taken in Years 2 and 3. A candidate for BForSc with Honours will be required to enrol in FORE 414 Dissertation in addition to satisfying the requirements of the Fourth Forestry Examination. A candidate whose work has been of a sufficiently high standard shall be recommended for admission to the Degree with First or Second Class Honours. Each candidate obtaining Second Class Honours shall be listed in either of two divisions (Division I or Division II).

9. Exemption for BSc and BSc(Hons) Graduates

With the approval of the Academic Board, a candidate who has previously qualified at any New Zealand university for the award of the degree of Bachelor of Science (with or without Honours) or for any other degree may be exempted from the whole or part of both the First and Second Forestry Examinations. A special course of study, which could include both Year 2 and Year 3 papers, may be approved by the Dean of Engineering and Forestry.

10. Exemption for Candidates with NZ Certificate in Forestry, NZ Diploma in Forestry or NZ Certificate in Science

(a) Notwithstanding anything contained in these Regulations, a candidate who has qualified for the New Zealand Diploma in Forestry may, with the approval of the Dean of Engineering and Forestry, be exempted from parts of the first three Forestry Examinations but the Dean will require a special course of study of at least one year but normally two years prior to entry into the Fourth year.

(b) Notwithstanding anything contained in these Regulations, a candidate who has qualified with outstanding merit for the New Zealand Certificate in Forestry and who has completed the practical requirements for the award of that Certificate may, with the approval of the Dean of Engineering and Forestry, be exempted from the whole or part of the First and Second Forestry Examinations. A special course of study may be approved by the Dean.

Note: Candidates should be adequately prepared in Mathematics and other basic sciences and may be required to undertake additional studies in these subjects before being accepted into the Third Forestry Examination. Candidates should consult with the Dean before completing enrolment.

(c) Notwithstanding anything contained in these Regulations, a candidate who has qualified with outstanding merit for the New Zealand Certificate in Science may, with the approval of the Dean of Engineering and Forestry, be exempted from all or part of the First Forestry Examination.

Note: This regulation does not make provision for credit towards a BSc degree. If sought this must be applied for separately. See the BSc Regulation 9.

11. Cross Credits between BForSc and BCom Degrees

A candidate for the Degree of Bachelor of Forestry Science who is or has been enrolled for the Degree of Bachelor of Commerce shall, in addition to the credit permitted under Regulation K1 of the General Course and Examination Regulations, be permitted, with the approval of the Dean of Engineering and Forestry, to cross credit a further 28 points from the Bachelor of Commerce Schedule in place of any FORE 400 elective.

12. Cross Credits and Substitutes between BForSc and BSc Degrees

(a) A candidate for the Degree of Bachelor of Forestry Science who is or has been enrolled for the Degree of Bachelor of Science shall, in order to qualify for the award of both degrees, meet all requirements as laid down in the Regulations for the Degree of Bachelor of Forestry Science and obtain 172 points 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, 84 must be from 300-level courses, and include at least 56 points from a single subject or as required by the subject major. The remainder of the points must come from approved 200 or 300-level courses.

(b) With the approval of the Dean of Engineering and Forestry a candidate may substitute additional 200-level courses equivalent to 22 points or 300-level courses equivalent to 28 points from the Bachelor of Science schedule for any FORE 400 elective.

13. Transitional Regulation

A candidate who has commenced a BForSc degree before 1999 shall complete the degree by taking courses approved by the Dean of Engineering and Forestry which are consistent with the regulations in this Calendar.

Graduate Diploma in Forestry (GradDipFor)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Diploma

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

(b) Every candidate for the Diploma shall have been approved as a candidate by the Dean of Engineering and Forestry.

Note: Graduates of the BForSc will not be admitted to the GradDipFor but may apply for the MForSc or PGDipFor.

2. Structure of the Diploma

To qualify for the diploma a candidate shall pass 6 courses (or the equivalent thereof) which shall have been selected from the Schedule to the Bachelor of Forestry Science degree or from courses which the Academic Board has accepted as equivalent thereto. Normally, at least four of these courses shall be from the 300 and 400-level.

3. Award of Diploma with Distinction

The Graduate Diploma in Forestry may be awarded with Distinction.

4. Exemption from Prerequisites

Normal prerequisites for any courses may be exempted at the discretion of the Dean of Engineering and Forestry.

5. Part-time Enrolment

The Graduate Diploma may be studied part-time.

6. Time Limits

The Graduate Diploma will be completed in one year of full-time study (under exceptional circumstances the Dean may extend this to 18 months) or two years of 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 Academic Board.

7. Repeating of Courses

A candidate who has failed one or more courses is allowed to repeat those courses for credit subject to the time limits in Regulation 6.

The Degree of Master of Engineering (ME)

See also General Course and Examination Regulations.

Note: The regulations to the ME offered prior to 2006 have been discontinued. Candidates who are currently enrolled under the existing regulations may complete their degree under those regulations (see page 253, 2005 Calendar).

1. Degree Programmes

The degree of Master of Engineering (ME) may be awarded endorsed in the following subjects: Bioengineering, Chemical and Process Engineering, Civil Engineering, Electrical and Electronic Engineering, and Mechanical Engineering.

2. Qualifications Required to Enrol in the Degree

A candidate shall have:

(a) i. qualified for the award of the Degree of Bachelor of Engineering with first or second class honours; or
   ii. qualified for the award of the Postgraduate Diploma or Postgraduate Certificate in Engineering with a GPA of 5 or more; or
   iii. qualified for the award of the Degree of Bachelor of Science with first or second class honours in appropriate subjects; or
   iv. in exceptional circumstances, qualified for the award of another appropriate degree in New Zealand; or
   v. been admitted ad eundem statum as entitled to proceed to the Degree of Master of Engineering; and

(b) been approved as a candidate for the degree by the Dean of Engineering and Forestry.

Notes:

i. Relevance and standard of previous study are the main criteria for approval.

ii. Candidates will be approved only if appropriate research supervision and resources are available.

3. Structure of the Degree

(a) The ME degree may be awarded as an endorsed degree in an area of specialisation selected from those specialisations listed in Schedule A.

(b) Each candidate must complete a programme of study with a minimum total weight of 1.4 EFTS. The programme of study consists of a thesis (1.0 EFTS) and courses with a total course weighting of not less than 48 points (0.4 EFTS). The courses must be selected as follows:
   i. courses with a total course weighting of not less than 12 points (0.1 EFTS) must be selected from the 600-level courses listed in Schedule B; and
   ii. additional courses with a total course weighting of not less than 24 points (0.3 EFTS) must be selected from the courses listed in Schedule B, or from postgraduate courses offered outside the Engineering programmes; and
   iii. any remaining courses, that ensure that the total course weight is not less than 48 points (0.4 EFTS), may be selected from 400-level courses offered in the Engineering programmes; and
   iv. the courses selected must satisfy the specific requirements for the chosen specialisation in Schedule A.

   Note: Not all courses may be available in a given discipline in any year.

(c) Each programme of study must be approved by the Head of Department and Dean of Engineering and Forestry.

(d) In exceptional circumstances the Dean of Engineering and Forestry may approve appropriate substitutions for courses listed in Regulation 3(b) above.

4. Exemptions

Subject to the approval of the Dean of Engineering and Forestry, students with relevant previous postgraduate study, or extensive relevant industry experience, may apply for exemption from some, or all, of the coursework (48 points) component of the degree.

5. Full-time and Part-time Enrolment

(a) A candidate shall normally enrol as a full-time candidate.
   i. A full-time candidate will enrol for not less than one year four months and not more than three years; or
   ii. if a candidate has been exempted courses under Regulation 4, then a minimum and maximum period of enrolment, consistent with the level of exemption, will be determined by the Dean of Engineering and Forestry at the time of enrolment, such that the minimum period is not less than one year.

   Note: With the approval of the supervisor and Head of Department, a full-time candidate may be employed in the university in academically relevant work for up to an average of 6 hours per week over the calendar year.

(b) With the approval of the Dean of Engineering and Forestry, a candidate may be enrolled as a part-time candidate. A part-time candidate is one who, because of health, employment, family, or other circumstances, is unable to devote himself or herself to full-time study and research.
   i. A part-time candidate will enrol part-time for not less than two years six months and not more than four years; or
   ii. if a candidate has been exempted courses under regulation 4, then a minimum and maximum period of part-time enrolment, consistent with the level of exemption, will be determined by the Dean of Engineering and Forestry at the time of enrolment.

   Note: Candidates are expected to be enrolled either part-time or full-time on a continuous basis. If a candidate can not be enrolled continuously due to circumstances beyond their control they must apply to the Dean of Engineering and Forestry for a suspension.

6. ME with Distinction

Candidates who obtain a GPA of 8.00 or more in their programme of study will be eligible for the award of ME with Distinction.

7. Theses

The presentation of the thesis shall conform to the requirements of the General Course and Examination Regulations: L, to the Guidelines for Master's Thesis Work, and to the Library Guide to the Presentation of Theses.

8. Transfer from ME to MEngSt

Subject to approval of the Dean of Engineering and Forestry, a candidate may transfer from the Master of Engineering to the Master of Engineering Studies subject to satisfying the regulation requirements of the MEngSt.

9. Transfer from ME to PhD

Where a candidate has demonstrated high research potential and has the support of the Head of Department, the candidate may abandon the Master of Engineering degree and apply to transfer to a PhD degree with such backdating of research thesis enrolment as may be approved by the Academic Board.

10. Award of ME instead of PhD

Where a thesis has been presented for the degree of Doctor of Philosophy in the Faculty of Engineering and Forestry, and the examiners are of the opinion that it does not justify the award of that degree they may recommend that it be presented for the degree of Master of Engineering. In this case the Dean of Engineering and Forestry may, if required for the award of the degree, exempt the course work component of the degree.

11. Award of PGCertEng instead of ME

Should a candidate fail to complete the requirements for the Master of Engineering degree but successfully complete the requirements for the award of the Postgraduate Certificate in Engineering, he or she may be awarded, upon the recommendation of the Academic Board, a Postgraduate Certificate in Engineering instead.

12. Transfer from PGCertEng to ME

Where a candidate has demonstrated research potential and has the support of the Head of Department or the appropriate Programme Director, he or she may abandon the Postgraduate Certificate before the completion of the qualification, and transfer to the Master of Engineering (ME), with such backdating of enrolment as may be approved by Academic Board.

(a) Subject to approval of the Dean of Engineering and Forestry, a candidate for the Postgraduate Certificate in Engineering my transfer to the Master of Engineering provided the following conditions have been met:

i. The candidate has completed 48 points (0.4 EFTS) of the course requirements for the PGCertEng.
ii. The candidate has achieved an average GPA of 5.0 or better in the completed courses; and
iii. The courses completed by the candidate fulfil the coursework requirements of one of the ME specialisations, given in Schedule A of the ME Regulations; and
iv. Suitable thesis supervision and research resources are available.

(b) Where the transfer of a candidate from the PGCertEng to a suitable ME Endorsement has been approved, the Dean of Engineering and Forestry will transfer appropriate courses from the candidate's PGCertEng studies towards their ME degree.

13. Transition Arrangements

Candidates enrolled in the Master of Engineering degree under previous regulations may complete their degree under those regulations. Such candidates, if they believe that they will be able to satisfy the requirements of a particular specialisation given in Schedule A, may, subject to the approval of the Dean of Engineering and Forestry, transfer to a Master of Engineering in that specialisation.

Schedule A to the Regulations for the Degree of Master of Engineering (Endorsed)

Bioengineering

Required course: ENBI 601

Thesis: ENBI 690

Chemical and Process Engineering

Thesis: ENCH 690

Civil Engineering

Thesis: ENCI 690 and at least 24 points (.2 EFTS) ENCI courses

Electrical and Electronic Engineering

Thesis: ENEL 690

Mechanical Engineering

Thesis: ENME 690

Schedule B to the Regulations for the Degree of Master of Engineering (Endorsed)

Bioengineering

ENBI 601 Medical Bioengineering

ENBI 605 Biomedical Engineering Simulations

Chemical and Process Engineering

ENCH 601 Advanced Thermodynamics and Statistical Thermodynamics

ENCH 602 Introduction to Computational Fluid Dynamics

ENCH 603 Physical, Chemical and Analytical Techniques
ENCH 604 Advanced Separation Processes
ENCH 605 Biological Waste Processing
ENCH 606 Advanced Process Simulation
ENCH 607 Modelling and Numerical Methods
ENCH 620 Clean Technology and Processes
ENCH 621 Fundamentals for Sustainable Processes
ENCH 622 Environmental Process Engineering
ENCH 623 Environmental Management Systems

Civil Engineering

ENCI 601 Risk Assessment
ENCI 602 Introduction to Continuum Mechanics
ENCI 603 Construction Operations Analysis and Management
ENCI 609 Special Topic: Construction Procurement and Contract Administration
ENCI 610 Special Topic: Construction Management
ENCI 611 Advanced Structural Steel
ENCI 612 Bridge Structure
ENCI 613 Structural Dynamics and Earthquake Engineering
ENCI 614 Advanced Timber Engineering
ENCI 615 Advanced Structural Concrete; Displacement Based Seismic Design and Retrofit Techniques
ENCI 616 Finite Element Analysis
ENCI 617 Engineering Seismology
ENCI 618 Foundation Engineering
ENCI 620 Geotechnical Earthquake Engineering
ENCI 621 Concrete Materials and Practice
ENCI 630 Special Topic: Nonlinear Concrete Mechanics
ENCI 632 Ground Water Flow
ENCI 634 Water Chemistry
ENCI 635 Ecological Engineering
ENCI 636 Advanced Biological Waste Processes
ENCI 637 Marine Pollution Modelling
ENCI 638 Environmental Fluid Dynamics
ENCI 657 Special Topic: Advanced Shockwave Modelling for Fault Monitoring in Pipeline Systems
ENCI 658 Special Topic: Strategic Management in Construction
ENCI 660 Special Topic: Project Management, Planning and Control Techniques

Computer Science

COSC 410 Simulation Modelling and Analysis
COSC 424 Secure Software
COSC 426 Augmented Reality

Electrical and Electronic Engineering

ENEL 611 Advanced Communications Electronics
ENEL 614 Biomedical Engineering
ENEL 615 High Frequency Switching Techniques
ENEL 619 Computational Image Recovery
ENEL 622 Advanced Signal Processing 1
ENEL 629 Advanced Power System Engineering
ENEL 641 Advanced Semiconductor Devices
ENEL 650 Advanced Digital Communications
ENEL 657 Applied Digital Signal Processing
ENEL 672 Nano-Engineered Materials and Devices
ENEL 674 Applied Random Processes
ENEL 675 Special Topic: Advanced Embedded Systems
ENEL 677 Advanced Systems and Control
ENEL 679 Special Topic: Aspects of Research Procedures
ENEL 685 Electrical Postgraduate Project

Engineering Management

ENMG620 Commercialising Research

Forestry Science

FORE 606 Forest Transport
FORE 607 Forest Harvesting
FORE 609 Advanced Wood-based Composites
FORE 616 Restoration Ecology
FORE 641 Plantation Forest Management
FORE 642 Advanced IT Applications in Forestry

Fire Engineering

ENFE 601 Structural Fire Engineering
ENFE 602 Fire Dynamics
ENFE 603 Fire Safety Systems
ENFE 604 Fire Design Case Study
ENFE 610 Advanced Fire Dynamics

Mechanical Engineering

ENME 601 Product Innovation
ENME 626 Special Topic: Waterjet Theory
ENME 630 Advanced Computational Solid Mechanics
ENME 632 Advanced Mechanics of Vibration
ENME 633 Advanced Modern Control Theory
ENME 635 Advanced Heat and Mass Transfer
ENME 636 Advanced Manufacturing Technology
ENME 640 Advanced Mechanical System Design – Process
ENME 641 Advanced Mechanical System Design – Special Applications
ENME 643 Advanced Computer Control and Instrumentation
ENME 645 Advanced Energy Engineering

ENME 654 Introduction to Acoustics
ENME 656 Advanced Computer-Aided Product Development
ENME 657 Advanced Fracture Mechanics and Failure Analysis
ENME 664 Biofluid Mechanics
ENME 665 Advanced HVAC Engineering
ENME 667 Advanced Polymeric and Composite Materials
ENME 671 Computational Methods in Elasto-dynamic Inverse Problems.
ENME 676 Biomaterials Science

Engineering Mathematics

EMTH 600 Dynamical Systems
EMTH 601 Continuous Biological Systems
EMTH 602 Fluid Mechanics
EMTH 603 Numerical Solution of Partial Differential Equations
EMTH 604 Optimisation Theory and Methods
EMTH 605 Approximation Theory
EMTH 606 Algebraic and Symbolic Computation
EMTH 607 Coding Theory
EMTH 608 Industrial Case Studies

Transport Engineering

ENTR 602 Accident Reduction and Prevention
ENTR 603 Advanced Pavement Design
ENTR 604 Pavement Management Systems
ENTR 611 Planning and Managing for Transport
ENTR 612 Traffic Management Policies
ENTR 613 Highway Geometric Design
ENTR 614 Sustainable Transport Planning
ENTR 615 Transport Network Modelling
ENTR 616 Advanced Transport Planning and Modelling
ENTR 617 Traffic Engineering and Design
ENTR 618 Transport and Freight Logistics

Notes:

i. Not all courses will be offered in any one year. Students are advised to contact the College of Engineering for an up to date list of courses offered.

ii. Special topics are available in Chemical and Process Engineering, Civil Engineering, Electrical and Electronic Engineering, Mechanical Engineering, Engineering Mathematics and Transport Engineering. Students are advised to contact the departments for more information on special topics.

The Degree of Master of Engineering in Fire Engineering (MEFE)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

A candidate for the Degree of Master of Engineering in Fire Engineering shall have:

(a) i. qualified for the award of the Degree of Bachelor of Engineering with Honours; or
ii. qualified for the award of the Degree of Bachelor of Engineering; or
iii. qualified for the award of an appropriate degree in New Zealand; or
iv. been admitted ad eundem statum as entitled to proceed to the Degree of Master of Engineering in Fire Engineering; and

(b) for MEFE by examination and project report, have completed a suitable period of professional engineering experience; and

(c) been approved as a candidate for the degree by the Dean of Engineering and Forestry.

Notes:

1. *Relevance and standard of undergraduate studies are the main criteria for approval.*
2. *Candidates will only be approved if appropriate research supervision is available.*
3. *The period of professional engineering experience required for entry to MEFE by examination and project report will normally be four years.*

2. Qualifying Programmes

If a candidate does not hold any of the qualifications noted in Regulation 1(a) above, or has not demonstrated to the satisfaction of the Dean of Engineering and Forestry a suitable standard in previous work, he or she may be admitted to a qualifying programme of study, specified by the Director of the Fire Engineering Programme and approved by the Dean of Engineering and Forestry. Completion of this programme to a satisfactory standard and approval as a candidate for the degree by the Dean of Engineering and Forestry will qualify the candidate for enrolment in a Master of

Engineering in Fire Engineering.

Note: Candidates will be approved for the degree by the Dean of Engineering and Forestry only if an appropriate research topic is identified during the qualifying programme and supervision is available for that topic.

3. Structure of the Degree

For each candidate, the Dean of Engineering and Forestry will approve, on the basis of academic background and work experience, the programme of study to be followed to qualify for the degree. Candidates without prior practical experience will normally be required to complete a thesis rather than a project report.

The degree may be completed:

i. by examination and project report; or

ii. by examination and thesis.

4. Full-time and Part-time Enrolment

(a) i. A candidate shall normally be enrolled as a full-time or part-time candidate.

ii. A full-time candidate is one who throughout the calendar year regards study and research for the Master of Engineering in Fire Engineering as a full-time occupation.

Note: With the approval of the supervisor and Director of the Fire Engineering programme, a full-time candidate may be employed in the university in academically relevant work for up to an average of 6 hours a week over the calendar year.

(b) i. With the approval of the Academic Board, a candidate may be enrolled as a part-time candidate.

ii. 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 and research.

iii. An applicant for part-time enrolment must produce evidence, including a statement from any employer, that he or she will be able to pursue satisfactorily the necessary study and research. The Dean of Engineering and Forestry will not approve part-time enrolment unless satisfied that the candidate can devote sufficient time to study and research to be able to complete the degree within the relevant time as stated in Regulation 4 above, that any necessary access to required facilities will be available and that adequate regular communication with a nominated supervisor is assured.

(c) After the commencement of study and research for the degree a candidate may, with the permission of the Academic Board, transfer from part-time to full-time status, or vice-versa. In granting such permission, the Dean shall determine the minimum period of study and may impose other conditions.

Note: Candidates are expected to be enrolled either part-time or full-time on a continuous basis. If a candidate can not be enrolled continuously due to circumstances beyond their control they must apply to the Dean of Engineering and Forestry for a suspension.

5. Programme of Study

A candidate for the Degree of Master of Engineering in Fire Engineering by examination and project report shall:

i. enrol in and pursue either full-time for one year or part-time for not less than two years and not more than four years a programme of study approved by the Dean of Engineering and Forestry; and

ii. pass an examination in six courses selected from the Schedule to these regulations; and

iii. present a project report and satisfy the examiners therewith.

A candidate for the Degree of Master of Engineering in Fire Engineering by examination and thesis shall:

i. enrol in and pursue either full-time for not less than one year and not more than three years, or part-time for not less than two years and not more than four years, a programme of study approved by the Dean of Engineering and Forestry; and

ii. pass an examination in six courses selected from the Schedule to these regulations; and

iii. present a thesis and satisfy the examiners therewith.

6. MEFE 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 project report and all courses taken.

Note: Candidates may enquire from the Dean of Engineering and Forestry as to the standards required for Distinction.

7. Project Reports

The following conditions shall apply to the preparation, presentation and examination of the project report:

i. the project report shall describe work done by the candidate on a project approved by the Director of the Fire Engineering programme. The project shall be carried out by the candidate at the University under the direct supervision of a member of academic staff. In particular circumstances the project may be carried out in such other places and for such period or periods of time as may be approved by the Director of the Fire Engineering programme;

ii. the candidate shall submit for examination two hard bound copies of the project report to the Director of the Fire Engineering programme;

iii. the project report shall be submitted by a full-time candidate within one year or by a part-time candidate within four years from the date upon which study for the MEFE commenced, unless the candidate is permitted a longer period by the Dean of Engineering and Forestry.

iv. the project report shall be examined by one or more examiners appointed by the Director of the Fire Engineering programme.

8. Theses

The following conditions shall apply to the preparation, presentation and examination of the thesis:

i. the presentation of the thesis shall conform to the requirements of the General Course and Examination Regulations, Part L, to the Guidelines for Masters Thesis Work and to the Library's guide to thesis production;

ii. the thesis shall describe the work done by the candidate in an investigation in a subject approved by the Director of the Fire Engineering programme. The investigation shall be carried out at the University by the candidate under the direct supervision of a member of the academic staff. In special circumstances the investigation may be carried out in such other places for such period or periods as may be determined by the Head of Department.

iii. the candidate shall submit for examination two copies of the thesis;

iv. the thesis shall be examined by an external examiner appointed by Council and by one or more internal examiners appointed by Council (Note: See also General Course and Examination Regulations, Part D);

v. if the thesis at its first presentation is inadequate to secure a pass the Academic Board may, on the recommendation of the examiners, permit the candidate to revise the thesis and resubmit it by a specified date;

vi. except with the approval of the Dean of Engineering and Forestry the thesis shall be submitted within three calendar years by a full-time candidate and within four years by a part-time candidate.

9. Transfer from MEFE to PhD

Where a candidate has demonstrated high research potential and has the support of the Director of the Fire Engineering programme, he or she may apply for transfer to a PhD degree with such backdating of enrolment as may be approved by the Academic Board.

10. Award of a Postgraduate Diploma in Engineering Instead of MEFE

Should a candidate fail to complete the requirements for the degree of MEFE he or she, after completing such extra work, if any, as may be required by the Director of the Fire Engineering Programme, may apply to the Academic Board for the award of a Postgraduate Diploma in Engineering.

Note: The Postgraduate Diploma in Engineering was discontinued from 2006. The award of PGDipEng instead of the MEFE will not be available to new candidates enrolled from 2006.

11. Transfer from PGCertEng to MEFE

Where a candidate has demonstrated research potential and has the support of the Head of Department or the appropriate Programme Director, he or she may abandon the Postgraduate Certificate before the completion of the qualification, and transfer to the Master of Engineering in Fire Engineering (MEFE) with such backdating of enrolment as may be approved by Academic Board.

(a) Subject to approval of the Dean of Engineering and Forestry, a candidate for the Postgraduate Certificate in Engineering may transfer to the Master of Engineering in Fire Engineering provided the following conditions have been met:

i. The candidate has completed 48 points (0.4 EFTS) of the course requirements for the PGCertEng.

ii. The candidate has achieved an average GPA of 5.0 or better in the completed courses; and

iii. Suitable thesis or project supervision and research resources are available.

(b) Where the transfer of a candidate from the PGCertEng to the MEFE has been approved, the Dean of Engineering and Forestry will transfer appropriate courses from the candidate's PGCertEng studies towards their MEFE degree.

Note: Candidates may be required to complete further course requirements depending on which programme of study they enrol in. See also MEFE Degree Regulations.

Schedule to the Regulations for the Degree of Master of Engineering in Fire Engineering

Courses:

ENCI 601 Risk Assessment
ENFE 601 Structural Fire Engineering
ENFE 602 Fire Dynamics
ENFE 603 Fire Safety Systems
ENFE 604 Fire Design Case Study
ENFE 610 Advanced Fire Dynamics
ENFE 612 Special Topic
ENFE 613 Special Topic: Human Behaviour in Fire
ENFE 614 Special Topic

Project:

ENFE 680

Note: Part-time enrolment is available on approval.

Thesis:

ENFE 690 (full-time students)

Note: Part-time enrolment (0.65 EFTS) is available on approval.

Certain courses offered at the University of Auckland may be offered in lieu of one or more of the above courses. Intending students must consult the Director of the Fire Engineering Programme for details of these courses, and to determine which courses ENFE 610-614 will be offered in any one year, and their subject matter.

The Degree of Master of Engineering in Management (MEM)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

A candidate for the Degree of Master of Engineering in Management shall have:

(a) i. qualified for the award of the Degree of Bachelor of Engineering with Honours; or
ii. qualified for the award of the Degree of Bachelor of Engineering; or
iii. qualified for the award of an appropriate degree in New Zealand; or
iv. been admitted ad eundem statum as entitled to proceed to the Degree of Master of Engineering in Management; and

(b) been approved as a candidate for the degree by the Dean of Engineering and Forestry.

Notes:

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

ii. Candidates will normally be approved only after an interview by the Director of the Master of Engineering in Management programme.

2. Structure of the Degree

A candidate for the Degree of Master of Engineering in Management shall:

i. enrol in and pursue full-time for one year a programme of study approved by the Dean of Engineering; and
ii. during the year of study, pass an examination in six courses selected from the Schedule to these Regulations; and
iii. during the year of study, present a project report and satisfy the examiners therewith.

3. MEM with Distinction

In cases of exceptional merit candidates may, on the recommendation of the examiners, have the degree awarded with Distinction.

4. Standards required for MEM 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 project report and of all courses taken.

Note: Candidates may enquire from the Dean of Engineering and Forestry as to the standards required for Distinction.

5. Project Reports

The following conditions shall apply to the preparation, presentation and examination of the project report:

i. the project report shall describe work done by the candidate on a project approved by the Director of the Master of Engineering in Management programme. The project shall be carried out by the candidate at the University under the direct supervision of a member of academic staff. In particular circumstances the project may be carried out in such other places and for such period or periods of time as may be approved by the Director of the Master of Engineering in Management programme;

ii. the candidate shall submit for examination two hard bound copies of the project report to the Director of the Master of Engineering in Management programme;

iii. the project report shall be submitted within one calendar year from the date upon which study for the Master of Engineering in Management commenced;

iv. the project report shall be examined by one or more examiners appointed by the Director of the Master of Engineering in Management programme.

Schedule to the Regulations for the Degree of Master of Engineering in Management

Courses:

ENMG 601 Engineering Accounting

ENMG 602 Engineering Economics and Finance

ENMG 603 Legal and Human Resource Issues

ENMG 604 Technology, Innovation and Engineering Management

ENMG 605 Marketing, Selling and Service

ENMG 606 Strategic Management

ENMG 607 Special Topic

ENMG 608 Special Topic

ENMG 609 Special Topic

Project:

ENMG 680

Note: Not all courses will be offered in a single year. Intending students must consult the Director of the Master of Engineering in Management Programme to determine which courses in ENMG 601-9 will be offered in any one year, and their subject matter.

The Degree of Master of Engineering in Transportation (MET)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

A candidate for the Degree of Master of Engineering in Transportation shall have:

(a) i. qualified for the award of the Degree of Bachelor of Engineering with Honours; or
ii. qualified for the award of the Degree of Bachelor of Engineering; or
iii. qualified for the award of an appropriate degree in New Zealand; or
iv. been admitted ad eundem statum as entitled to proceed to the Degree of Master of Engineering in Transportation; or

(b) been approved as a candidate for the degree by the Dean of Engineering and Forestry.

Notes:

i. The relevance and standard of undergraduate studies and any subsequent professional experience are the main criteria for approval.

ii. Candidates will only be approved if appropriate research supervision is available.

2. Qualifying Programmes

If a candidate does not hold any of the qualifications noted in Regulation 1(a) above, or has not demonstrated to the satisfaction of the Dean of Engineering and Forestry a suitable standard in previous work, he or she may be admitted to a qualifying programme of study, specified by the Director of the Transportation Engineering Programme and approved by the Dean of Engineering and Forestry. Completion of this programme to a satisfactory standard and approval as a candidate for the degree by the Dean of Engineering and Forestry will qualify the candidate for enrolment in a Master of Engineering in Transportation.

Note: Candidates will be approved for the degree by the Dean of Engineering and Forestry only if an appropriate research topic is identified during the qualifying programme and supervision is available for that topic.

3. Structure of the Degree

For each candidate the Dean of Engineering and Forestry will approve, on the basis of academic background and work experience, the programme of study to be followed to qualify for the degree.

The degree may be completed:

i. by examination and project report, or
ii. by examination and thesis, or
iii. by thesis

Note: In any year not all programmes of study may be available.

4. Full-time and Part-time Enrolment

(a) i. A candidate may be enrolled as a full-time or part-time candidate.
ii. A full-time candidate is one who throughout the calendar year regards study and research for the Master of Engineering in Transportation as a full-time occupation. Note: With the approval of the supervisor and Director of the Transportation Engineering Programme, a full-time candidate may be employed in the university in academically-relevant work for up to an average of six hours a week over the calendar year.

(b) i. With the approval of the Dean of Engineering and Forestry, a candidate may be enrolled as a part-time candidate.
ii. 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 and research.
iii. An applicant for part-time enrolment must produce evidence, including a statement from any employer, that he or she will be able to pursue satisfactorily the necessary study and research. The Dean will not approve part-time enrolment unless satisfied that the candidate can devote sufficient time to study and research to be able to complete the degree programme within four years, that any necessary access to required facilities will be available, and that adequate regular communication with a nominated supervisor is assured.

(c) After the commencement of study and research for the degree a candidate may, with the permission of the Academic Board, transfer from part-time to full-time status, or vice-versa. In granting such permission, the Dean shall determine the minimum period of study and may impose other conditions.

Note: Candidates are expected to be enrolled either part-time or full-time on a continuous basis. If a

candidate can not be enrolled continuously due to circumstances beyond their control they must apply to the Dean of Engineering and Forestry for a suspension.

5. Programme of Study Involving Examinations and a Project

A candidate for the Degree of Master of Engineering in Transportation by examination and project shall:

i. enrol in and pursue either full-time for one year or part-time for not less than two years and not more than four years a programme of study approved by the Dean of Engineering and Forestry; and

ii. pass courses with a total course weighting of not less than 72 points (0.6 EFTS), as approved by the Director of the Transportation Engineering Programme and selected from the Schedule to these Regulations; and

iii. during the programme of study, present a project report and satisfy the examiners therewith.

6. Programme of Study Involving Examinations and a Thesis

A candidate for the Degree of Master of Engineering in Transportation by examination and thesis shall:

i. enrol in and pursue either full-time for not less than one year and not more than three years, or part-time for not less than two years and not more than four years, a programme of study approved by the Dean of Engineering and Forestry; and

ii. pass an examination in one to four courses as determined by the Director of the Transportation Engineering Programme and selected from the Schedule to these Regulations; and

iii. present a thesis and satisfy the examiners therewith, and, if so required, take an oral examination on the subject of the thesis and related subjects.

7. Programme of Study Involving a Thesis Alone

A candidate for the Degree of Master of Engineering in Transportation by thesis shall:

i. enrol in and pursue either full-time for not less than one year and not more than three years, or part-time for not less than two years and not more than four years, a programme of study approved by the Dean of Engineering and Forestry; and

ii. present a thesis and satisfy the examiners therewith, and, if so required, take an oral examination on the subject of the thesis and related subjects.

8. MET 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 project report or thesis and of all courses taken.

Note: Candidates may enquire from the Dean of Engineering and Forestry as to the standards required for Distinction.

9. Theses

The following conditions shall apply to the preparation, presentation and examination of the thesis:

i. the presentation of the thesis shall conform to the requirements of the General Course and Examination Regulations, Part L, to the Guidelines for Masters Thesis Work and to the Library's guide to thesis production;

ii. the thesis shall describe the work done by the candidate in an investigation in a subject approved by the Director of the Transportation Engineering Programme; the investigation shall be carried out at the University by the candidate under the direct supervision of a member of academic staff; in special circumstances the investigation may be carried out in such other places for such period or periods as may be determined by the Director of the Transportation Engineering Programme;

iii. the candidate shall submit for examination two hard bound copies of the thesis;

iv. the thesis shall be examined by an external examiner appointed by Council and by one or more internal examiners appointed by Council (Note: See also General Course and Examination Regulations, Part D);

v. if the thesis at its first presentation is inadequate to secure a pass the Academic Board may, on the recommendation of the examiners, permit the candidate to revise the thesis and resubmit it by a specified date;

vi. except with the approval of the Dean of Engineering and Forestry a full-time candidate shall submit the thesis within three years from the date of first enrolling for the degree or within four years in the case of a part-time candidate.

10. Project Reports

The following conditions shall apply to the preparation, presentation and examination of the project report:

i. the project report shall describe work done by the candidate on a project approved by the Director of the Transportation Engineering Programme; the project shall be carried out by the candidate at the University under the direct supervision of a member of academic staff; in particular circumstances the project may be carried out in such other places and for such period or periods of time as may be approved by the Director of the Transportation Engineering Programme;

ii. the candidate shall submit for examination two hard bound copies of the project report to the Director of the Transportation Engineering Programme;

iii. the project report shall be submitted by a full-time candidate within one calendar year from the date upon which study for the Master of Engineering in Transportation by examination and project commenced or within four years by a part-time candidate;

iv. the project report shall be examined by one or more examiners appointed by the Director of the Transportation Engineering Programme.

11. Transfer from MET to PhD

Where a candidate has demonstrated high research potential and has the support of the Director of the Transportation Engineering Programme, he or she may abandon the Master of Engineering degree and apply for transfer to a PhD degree with such backdating of enrolment as may be approved by the Academic Board.

Note: Candidates transferring to PhD must meet the normal entry requirements for that degree.

12. Award of PGCertEng instead of MET

Should a candidate fail to complete the requirements for the Master or Engineering in Transportation degree, but successfully complete the requirements for the award of the Postgraduate Certificate in Engineering, he or she may be awarded, upon the recommendation of the Academic Board, a Postgraduate Certificate in Engineering instead.

13. Transfer from PGCertEng to MET

Where a candidate has demonstrated research potential and has the support of the Head of Department or the appropriate Programme Director, he or she may abandon the Postgraduate Certificate before the completion of the qualification, and transfer to the Master of Engineering in Transportation (MET) with such backdating of enrolment as may be approved by Academic Board.

(a) Subject to approval of the Dean of Engineering and Forestry, a candidate for the Postgraduate Certificate in Engineering may transfer to the Master of Engineering in Transportation provided the following conditions have been met:
   i. The candidate has completed 48 points (0.4 EFTS) of the course requirements for the PGCertEng.
   ii. The candidate has achieved an average GPA of 5.0 or better in the completed courses; and
   iii. Suitable thesis or project supervision and research resources are available.

(b) Where the transfer of a candidate from the PGCertEng to the MET has been approved, the Dean of Engineering and Forestry will transfer appropriate courses from the candidate's PGCertEng studies towards their MET degree.

Note: Candidates may be required to complete further course requirements depending on which programme of study they enrol in. See also MET Degree Regulations.

Schedule to the Regulations for the Degree of Master of Engineering in Transportation

Courses:

ENTR 401 and 600-level Transportation Engineering courses listed in Schedule B of the ME Regulations.

Notes:

(a) For new candidates from 2008 without an appropriate Bachelor of Engineering degree or equivalent experience/qualifications, ENTR 401 must normally be completed prior to undertaking other ENTR courses.

(b) All new students from 2008 shall normally be required to complete ENTR 611 as part of their qualification. This should normally be undertaken before (or in conjunction with) any other 600-level ENTR courses.

(c) With the approval of the Director of the Transportation Engineering programme, the following may be offered in lieu of one or more of the above courses, provided that not less than half the courses for the degree are from the above Schedule:

i. Other relevant courses offered by the University of Canterbury at 400-level or greater; or

ii. Courses offered in the Transportation Engineering programme at the University of Auckland; or

iii. Other relevant courses offered at other universities.

(d) Intending candidates must consult the Director of the Transportation Engineering programme to determine which courses will be offered in any one year and which courses they will be required to complete.

Project:

ENTR 680 (full-time students)

Note: Part-time enrolment is available on approval.

Thesis:

ENTR 690 (full-time students)

Note: Part-time enrolment (0.65 EFTS) is available on approval.

The Degree of Master of Engineering Studies (MEngSt)

See also General Course and Examination Regulations.

1. Degree Programmes

The degree of Master of Engineering Studies (MEngSt) is offered in Chemical and Process Engineering, Civil Engineering, Electrical and Electronic Engineering, and Mechanical Engineering.

2. Qualifications Required to Enrol in the Degree

A candidate shall have:

(a) i. qualified for the award of the Degree of Bachelor of Engineering with Honours; or

ii. qualified for the award of the Degree of Bachelor of Engineering; or

iii. qualified for the award of the Postgraduate Diploma or Postgraduate Certificate in Engineering; or

iv. qualified for the award of the Degree of Bachelor of Science with Honours in appropriate subjects; or

v. in exceptional circumstances, qualified for the award of an appropriate degree in New Zealand; or

vi. been admitted ad eundem statum as entitled to proceed to the Degree of Master of Engineering Studies; and

(b) been approved as a candidate for the degree by the Dean of Engineering and Forestry.

Note: Relevance and standard of previous study is the main criteria for approval.

3. Structure of the Degree

Each candidate must complete a programme of study that consists of courses with a total course weighting of not less than 120 points (1.0 EFTS). The courses must be selected as follows:

i. courses with a total course weighting of not less than 72 points (0.6 EFTS) must be selected from the courses listed in Schedule B of the Master of Engineering regulations, or from postgraduate courses offered outside the Engineering programmes courses offered; and

ii. any remaining courses, that ensure that the total course weight is not less than 120 points (1.0 EFTS), may be selected from the list of 400-level courses offered by the Engineering programmes; and

iii. the total course weight of courses selected from outside the Engineering programmes may not amount to more than 36 points (0.3 EFTS).

Note: In any year not all courses may be available in a given discipline.

4. Full-time and Part-time Enrolment

A candidate may be enrolled for the Master of Engineering Studies as a full-time or part-time candidate. A full-time candidate will enrol for not less than one year and not more than two years. A part-time candidate will enrol for not less than two years and not more than five years. Part-time enrolment requires the approval of the Dean of Engineering and Forestry.

Notes:

1. *With the approval of the Head of Department, a full-time candidate may be employed in the University in academically relevant work for up to an average of 6 hours per week over the calendar year.*
2. *Candidates are expected to be enrolled either part-time or full-time on a continuous basis. If a candidate can not be enrolled continuously due to circumstances beyond their control they must apply to the Dean of Engineering and Forestry for a suspension.*

5. MEngSt with Distinction

Candidates who obtain a GPA of 8.00 or more in their programme of study will be eligible for the award of MEngSt with Distinction.

6. Transfer from MEngSt to ME

(a) Subject to the approval of the Dean of Engineering and Forestry, a candidate for the Master of Engineering Studies may transfer to a Master of Engineering provided the following conditions have been met:

i. the candidate has completed 48 points (0.4 EFTS) of the course requirements for the MEngSt; and
ii. the candidate has achieved an average GPA of 5.0 or better in the completed courses; and
iii. the courses completed by the candidate fulfil the coursework requirements of one of the ME specialisations given in Schedule A of the ME regulations; and
iv. suitable thesis supervision and research resources are available.

(b) Where the transfer of a candidate from the MEngSt to a suitable ME endorsement has been approved, the Dean of Engineering and Forestry will transfer appropriate courses from the candidate's MEngSt studies towards their ME degree.

7. Award of PGCertEng instead of MEngSt

Should a candidate fail to complete the requirements for the Master of Engineering Studies degree, but successfully complete the requirements for the award of the Postgraduate Certificate in Engineering, he or she may be awarded, upon the recommendation of the Academic Board, a Postgraduate Certificate in Engineering instead.

Notes:

i. The qualification of Postgraduate Diploma in Engineering was discontinued in 2006. Candidates who are currently enrolled may complete under the 2005 Regulations (see page 264, 2005 Calendar).

ii. Candidates currently enrolled in the Postgraduate Diploma in Engineering may substitute 600-level papers for 500-level papers to complete their diploma.

The Degree of Master of Forestry Science (MForSc)

See also General Course and Examination Regulations.

1. Qualifications Required to Enrol in the Degree

Every candidate for the Degree of Master of Forestry Science shall before entering upon a course of study for the degree satisfy the Dean of Engineering and Forestry of his or her ability to undertake the course and in particular shall have either:

i. qualified for the award of the Degree of Bachelor of Forestry Science with or without Honours; or
ii. qualified, with appropriate subjects, for the award of a degree other than the Bachelor of Forestry Science; or
iii. qualified for the award of Postgraduate Diploma in Forestry; or
iv. been admitted ad eundum statum as entitled to proceed to the Degree of Master of Forestry Science.

2. Course of Study

The Dean of Engineering and Forestry shall determine, for each candidate, whether he or she shall follow a course of study to qualify for the degree either:

i. by examination and report; or
ii. by examination and thesis; or
iii. by thesis.

Note: Eligibility for the above options will depend on the nature and standard of the candidate's prior qualification, and the nature of any proposed research topic.

3. Part-time Study

A candidate may be enrolled for the degree either full-time or part-time. 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 Academic Board.

4. Courses and Time Requirements

i. A candidate for the degree by Examination and Report must pass six courses from the Schedule to these Regulations and present a satisfactory project report which has the weight of two courses. The minimum and maximum times for full-time study will normally be two years and three years respectively; the minimum and maximum times for part-time study will normally be three years and four years respectively.

   Note: Normally a full-time student will complete four courses in the first year and two courses and the report in the second year.

ii. A candidate for the degree by Examination and Thesis must pass four courses from the Schedule to these Regulations, and present a satisfactory thesis which has the weight of four courses. The minimum and maximum times for full-time study will normally be two years and three years respectively; the minimum and maximum times for part-time study will normally be three years and four years respectively.

   Note: Normally a full-time student will complete four courses in the first year and the thesis in the second year.

iii. The minimum and maximum times for full-time study for the degree by thesis will normally be one year and two years respectively; the minimum and maximum times for part-time study for the degree by thesis will normally be 18 months and three years respectively.

iv. To qualify for the award of the degree, all requirements must be completed within the times listed above, from the date of commencing the course of study, unless the candidate is granted an extension of time by the Academic Board because of special circumstances.

5. Courses from Other Degrees

A candidate may with the approval of the Head of School of Forestry and of the Head of the other Department concerned replace up to two of the courses prescribed for this degree by courses from a subject listed for another Masters degree or at an equivalent level for another Honours degree.

6. Examination of Theses

Where a candidate is taking the degree by Thesis or by Examination and Thesis the candidate will present a thesis embodying the results of an investigation conducted by the candidate in a subject approved by the Dean and satisfy the examiners therewith and, if so required, take an oral examination on the subject of the thesis.

7. Thesis Requirements

Where a thesis is required, the requirements of the General Course and Examination Regulations Part L, and the following conditions shall be met:

i. The thesis shall describe the work done by the candidate in an investigation in a subject approved by the Dean. The investigation shall be carried out by the candidate under the direct supervision of a university teacher at a University institution or in special circumstances in an approved institution outside the University for such period or periods as may be determined from time to time by the Academic Board.

ii. A candidate shall not present a thesis any part of which has previously been accepted for any degree.

iii. If the thesis at its first presentation is unsatisfactory the examiners may recommend that the thesis be revised and resubmitted by a specified date.

8. Award of Honours

The degree may be awarded with Honours, which may be First Class or Second Class (Division 1 or 2). No candidate who has exceeded the time limits set out in Regulation 4 of these Regulations shall be eligible for honours, except with the approval of the Academic Board.

9. Award of MForSc instead of PhD

Where a thesis has been presented for the Degree of Doctor of Philosophy in the School of Forestry and the examiners are of the opinion that it does not justify the award of that degree they may recommend that the candidate be awarded the Degree of Master of Forestry Science.

10. Award of PGDipFor instead of MForSc

Where a candidate has followed a course of study to qualify for the degree of Master of Forestry Science by Examination and Report or Examination and Thesis and the examiners are of the opinion that the award of that degree is not justified they may recommend the award of the Postgraduate Diploma in Forestry.

Students in the two-year MForSc degree may, after completing the first year, elect to take a Postgraduate Diploma instead of continuing with their MForSc degree.

11. Transfer from PGDipFor to MForSc

A student who completes the Postgraduate Diploma is eligible for enrolment in the second year of a two-year MForSc programme, subject to the availability of staff and resources.

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

FORE 605 Advanced Biometry
FORE 606 Forest Transport
FORE 607 Forest Harvesting
FORE 609 Advanced Wood-Based Composites
FORE 610 Research Methods
FORE 612 Advanced Forest Economics
FORE 613 Marketing
FORE 616 Restoration Ecology
FORE 624 Plantation Silviculture
FORE 641 Plantation Forest Management
FORE 642 Advanced Information Technology Applications in Forestry and Natural Resource Management
FORE 643 Modelling for Forestry Management
FORE 650-659 Special Topics
FORE 665 Pest Management and Biological Security
FORE 670-672 Special Topics

Note: Not all courses in this Schedule will necessarily be offered in any one year. Students are advised to consult with the Dean of Engineering and Forestry to determine which courses will be offered in any one year and their subject matter.

Postgraduate Certificate in Engineering (PGCertEng)

See also General Course and Examination Regulations.

1. Certificate programmes

(a) The qualification of Postgraduate Certificate in Engineering (PGCertEng) may be awarded in:
Chemical and Process Engineering;
Civil Engineering;
Electrical and Electronic Engineering;
Mechanical Engineering.
(b) It may be awarded endorsed in the following subjects:
Fire Engineering;
Transportation Engineering.

2. Qualifications required to enrol in the Certificate

A candidate shall have:

(a) i. qualified for the award of the Degree of Bachelor of Engineering with Honours; or
ii. qualified for the award of the Degree of Bachelor of Engineering; or
iii. qualified for the award of the Degree of Bachelor of Science with Honours in appropriate subjects; or
iv. in exceptional circumstances, qualified for the award of another appropriate degree in New Zealand; or
v. been admitted ad eundem statum and entitled to proceed to the qualification of Postgraduate Certificate in Engineering; and
(b) been approved as a candidate for the Postgraduate Certificate by the Dean of Engineering and Forestry.

Note: The relevance and standard of undergraduate studies and any subsequent professional work experience are the main criteria for approval.

3. Structure of the Certificate

(a) To qualify for the award of the Postgraduate Certificate in Engineering, a candidate shall pass the prescribed courses in the Schedule to the value of 60 points (0.5 EFTS). The courses must be selected as follows:
i. courses with a total course weighting of not less than 36 points (0.3EFTS) must be selected from the courses listed in Schedule B of the Master of Engineering regulations, or from postgraduate courses offered outside the Engineering programmes; and
ii. any remaining courses, that ensure that the total course weight is not less than 60 points (0.5 EFTS) may be selected from the list of 400-level courses offered by the Engineering programmes; and

iii. the total course weight of courses selected from outside the Engineering programmes may not amount to more than 15 points (0.125 EFTS).

(b) Each programme of study must be approved by the Head of Department or Director of Studies and the Dean of Engineering and Forestry.

4. Full-time and Part-time enrolment

A candidate may be enrolled, either part-time or full-time, for not more than 4 years.

Note: Candidates are expected to be enrolled either part-time or full-time on a continuous basis. If a candidate cannot be enrolled continuously due to circumstances beyond their control they must apply in writing to the Dean of Engineering and Forestry for a suspension of studies.

5. Award of PGCertEng instead of ME or MEFE or MET or MEngSt

Should a candidate fail to complete the requirements for the Master's degree, but successfully completes the requirements for the award of the Postgraduate Certificate in Engineering, he or she may be awarded, upon the recommendation of the Academic Board, a Postgraduate Certificate in Engineering instead.

Schedule to the Regulations for the Postgraduate Certificate in Engineering (un-endorsed)

See Regulation 3 above.

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

Schedule to the Regulations for the Postgraduate Certificate in Engineering (endorsed)

Fire Engineering

Courses with a total course weighting of not less than 36 points (0.3 EFTS) must be selected from the 600 level Fire Engineering (ENFE) courses listed in Schedule B of the ME regulations.

Transportation Engineering

Courses with a total course weighting of not less than 36 points (0.3 EFTS) must be selected from the Transportation Engineering (ENTR) courses listed in Schedule B of the ME regulations. Subject to approval of the Dean of Engineering and Forestry a candidate may offer postgraduate courses offered in the Transportation Engineering Programme at the University of Auckland in lieu of no more than 0.2 EFTS of course work.

Notes:

1. *Candidates without a suitable background in Transportation Engineering will be required to include ENTR 401 as one of the required courses.*
2. *Not all courses will be offered in any one year.*

Postgraduate Certificate in Professional Development (Electronics and ICT) (PGCertPD(Elec&ICT)

See also General Course and Examination Regulations.

Admission to the Course

1. Before enrolment for this Certificate, a candidate shall have been awarded or qualified for the award of a university degree in engineering, technology, or computer science, or have been admitted with graduate equivalent status.
2. Admission to the Postgraduate Certificate in Professional Development (Electronics and ICT) shall be subject to the approval of the Programme Director, Engineering and Technology, to be advised by a National Academic Advisory Committee when established.

Structure of the Course

3. To qualify for the award of the Postgraduate Certificate in Professional Development (Electronics and ICT) a candidate shall pass the prescribed modules/papers/courses to the value of 60 points, of which at least 30 points, including Module 4, must be completed with the University from which the candidate elects to graduate. The modules must be completed in the same sequence as they appear in the Schedule.

Transfers and Cross Credits

4. No credit will be granted towards the Postgraduate Certificate in Professional

Development (Electronics and ICT) from a completed university qualification. Candidates may be permitted to transfer credit of up to 30 points from equivalent papers taken with another provider of the qualification.

Schedule to the Regulations for the Postgraduate Certificate in Professional Development (Electronics and ICT)

ENMG 501 Module 1: Technical Update
ENMG 502 Module 2: Essential Professional Studies
ENMG 503 Module 3: Sector Study
ENMG 504 Module 4: Integrated Professional Studies

Postgraduate Diploma in Engineering (PGDipEng)

The Postgraduate Diploma in Engineering was discontinued in 2006. Candidates who are currently enrolled may complete the diploma under the 2005 Regulations (see page 264, 2005 Calendar).

Candidates currently enrolled in the PGDipEng may substitute 600-level papers for 500-level papers to complete their diploma.

Postgraduate Diploma in Forestry (PGDipFor)

(See also General Course and Examination Regulations)

1. Qualifications Required to Enrol in the Diploma

Every candidate for the Postgraduate Diploma in Forestry shall:

(a) i. have qualified for the award of a bachelor's degree in Forestry or a related area of study in New Zealand; or
ii. have qualified for the award of a bachelor's or higher degree in other areas and have gained relevant experience in a Forestry related area satisfactory to the Dean of Engineering and Forestry; or
iii. have been admitted ad eundem statum as entitled to proceed to the Postgraduate Diploma; and

(b) have been approved as a candidate by the Dean of Engineering and Forestry.

Note: The standard of achievement in undergraduate studies and relevance of background are the main criteria for approval.

2. Course of Study

A candidate for the Postgraduate Diploma in Forestry must pursue a course of study approved by the Dean of Engineering and Forestry, and pass four courses at 600-level from those listed in the Schedule for the Degree of Master of Forestry Science.

3. Replacement of a Prescribed Course

A candidate may, with the approval of the Head of the School of Forestry and the Head of the other Department concerned, replace one course prescribed for the Postgraduate Diploma by one or two courses prescribed for another subject at an equivalent or higher level.

4. Time Limits

The Postgraduate Diploma will be completed in one year of full-time study (under exceptional circumstances the Dean may extend this to 18 months) or two years of part-time study. Criteria for part-time candidates are the same as those for Masters students as given in MForSc Regulation 3; part-time enrolment requires the approval of the Dean of Engineering and Forestry.

5. Award of Diploma with Distinction

The Postgraduate Diploma in Forestry may be awarded with Distinction.

6. Award of PGDipFor instead of MForSc

Where a candidate has followed a course of study to qualify for the degree of Master of Forestry Science by Examination and Report or Examination and

Thesis and the examiners are of the opinion that the award of that degree is not justified, they may recommend the award of the Postgraduate Diploma in Forestry.

Students in the two-year MForSc degree may, after completing the first year, elect to take a Postgraduate Diploma instead of continuing with Masters degree.

7. Transfer to MForSc

A student who completes the Postgraduate Diploma is eligible for enrolment in the second year of a two-year MForSc programme, subject to the availability of staff and resources.