

# Faculty of Engineering and Forestry

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

See also *General Course and Examination Regulations*.

### 1. Requirements of the Degree

Every candidate for the Degree of Bachelor of Engineering with Honours shall follow a course of study and non-academic requirements approved by the Dean of Engineering and Forestry as laid down in these Regulations, or those consistent with the regulations in the relevant Calendar at the time they began their candidacy. The Dean of Engineering and Forestry may modify specific aspects of these degree regulations for individual candidates under the following special circumstances:

- (a) If the candidate's course of study is affected by a change in any regulations;
- (b) Prior learning and work experience; or
- (c) Other exceptional circumstances.

Any modification to a programme of study must maintain the integrity of the programme and align with the Institution of Professional Engineers New Zealand (IPENZ) accreditation guidelines for the discipline that the candidate is undertaking.

### 2. Structure of the Degree

To qualify for the Degree of Bachelor of Engineering with Honours a candidate must complete:

- (a) a programme of study for the Engineering Intermediate Year of not less than 120 points;
- (b) an approved academic writing test;
- (c) a programme of three Professional Year Examinations where each year is not less than 120 points;
- (d) a programme of study which must include not less than 120 points at 400-level or higher;
- (e) the non-academic requirements.

Candidates are not permitted to enrol in any engineering courses of the Third Professional Examination prior to completion of the First Professional Examination.

### 3. Engineering Disciplines and Minors

- (a) The degree of Bachelor of Engineering with Honours may be awarded in the following programmes: Chemical and Process, Civil, Computer, Electrical and Electronic, Forest, Mechanical,

- Mechatronics, Natural Resources, and Software\*.
- (b) The degree may also be completed with a Minor\* that denotes sub-specialisation within an engineering discipline.

\*(Subject to UNZ CUAP approval due December 2012)

### 4. Admission to BE(Hons) Candidacy

- (a) Admission to the BE(Hons) shall be by approval of the Dean of Engineering and Forestry. All candidates must pass an approved academic writing test prior to approval into the professional programme. Further, a candidate:
  - (b) may qualify for admission upon successful completion of the Engineering Intermediate Examination principally on the basis of the grades obtained in that Examination; or
  - (c) 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; or
  - (d) who achieved sufficiently high grades in appropriate NCEA Level 3 subjects, or the New Zealand University Entrance, 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 Examination of the BE(Hons) degree; or
  - (e) who has completed a qualification from a tertiary institution with excellent grades may be considered for direct entry to either the First or Second Professional Examination of the BE(Hons) degree.

Notes:

1. A candidate who is not exempted from the Intermediate Examination will not normally be admitted to the First Professional Examination unless he or she has passed the whole Intermediate Examination in not more than two years of study.
2. The entire BE(Hons) Intermediate Year is a prerequisite for the Engineering First Professional Examination.
3. Introductory courses (MATHS 101, PHYS 111) will not be considered for credit towards the BE(Hons) Inter-

mediate Year.

4. The Dean of Engineering and Forestry reserves the right to decline entry to a student who has been offered a place in the Professional Examination of the BE(Hons) degree and who has not completed his or her enrolment by the Friday preceding the first day of lectures of Semester 1.
5. Special admission on the basis of clause (d) must be made by written application to the Dean of Engineering and Forestry where an interview may also be required. Applicants are encouraged to approach the Dean for a copy of the entry standard guideline at the earliest possible stage.
6. Special admission on the basis of clause (e) must be made by written application to the Dean of Engineering and Forestry. The Dean, in consultation with the relevant Director of Studies, will consider the applicant's prior learning, in particular their preparation in Mathematics, Physics, and where applicable Chemistry or Computer Science, and any relevant work experience in industry.

### 5. Time Limitation for Degree Completion and Suspension of Study

- (a) Candidates enrolled, either full-time or part-time, in the Degree of Bachelor of Engineering with Honours must complete the Professional Year Examinations and the non-academic requirements in no more than six years of study.
- (b) Candidates enrolled concurrently in the Degree of Bachelor of Engineering with Honours and with another programme of study must complete the Professional Year Examinations and the non-academic requirements in a timeframe approved by the Dean of Engineering and Forestry at the time of approval into the double degree.
- (c) Candidates may seek approval from the Dean of Engineering and Forestry to suspend their studies. Where approved, this will extend the time limitation for the completion of the degree.
- (d) Candidates who have an approved suspension in study may be required to undertake a preparatory programme prior to the resumption of their studies in the Degree of Bachelor of Engineering with Honours. Any preparatory programme of study must be completed while on suspension, and immediately prior to the end of their suspension.

Notes:

1. Candidates normally enrol for full-time study unless there are exceptional circumstances which prevent them from studying full time. Candidates must apply in writing to the Dean of Engineering and Forestry to apply for part-time study.

2. Preparatory programmes of study will not normally be required where the suspension is for a calendar year or less.

### 6. Class of Honours

- (a) The Degree of Bachelor of Engineering with Honours may be awarded with First Class Honours, or 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).
- (b) First and Second Class Honours are awarded for outstanding and meritorious achievement based on completion of the academic requirements in a timely manner and on the basis of academic achievement measured by weighted GPA, as stipulated below.
- (c) To be eligible for First or Second Class Honours a candidate must meet one of the time limit requirements:
  - i. if entering the programme at the First Professional Examination, he or she must complete the three professional years in no more than four years of study.
  - ii. if entering the programme at the Second Professional Examination, he or she must complete the Second and Third Professional Examinations in no more than three years of study.
  - iii. candidates approved into part-time study must complete the Second and Third Professional Examination in no more than four years of study. Approval into part-time study must be obtained prior to entering the Second Professional Examination.
- (d) The class of honours will be determined as a weighted average of the candidates GPA, with a 20% weighting on the Second Professional Examination and 80% on the Third Professional Examination. The weighted GPA will be computed to the first decimal place using the algorithm of 'round half up towards infinity'. Only first attempts at a course, or its substitute, will be considered in the calculation.
- (e) The classes and divisions of honours will be:
  - i. First Class Honours, weighted GPA in the range 7.0 – 9.0
  - ii. Second Class Honours Division I, weighted GPA in the range 5.5 – 6.9
  - iii. Second Class Honours Division II, weighted GPA in the range 4.0 – 5.4
- (f) Those candidates not eligible for First or Second Class honours, but having met all the academic requirements, will be eligible for the award of

Third Class honours.

*\*(Subject to UNZ CUAP approval due December 2012)*

## 7. BE without Honours

In exceptional circumstances a candidate may be permitted by the Dean of Engineering and Forestry to complete all the requirements, both academic and non-academic, of the award outside the time limitation. In such circumstances the candidate will be awarded a degree of Bachelor of Engineering.

## 8. Concurrent Enrolment in BE(Hons) and another award

A candidate who enrolls concurrently for the Degree of Bachelor of Engineering with Honours and another award 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, and shall:

- (a) meet all requirements as laid down in the current regulations for the Degree of Bachelor of Engineering with Honours;
- (b) meet all requirements as laid down in the current regulations for the other award;
- (c) be approved into the concurrent programme of study by the relevant Deans of both awards.

## 9. 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 the regulations for that degree relating to prerequisites, combinations of subjects, and practical work, as are applicable to that subject.

## 10. Restricted Credit

A candidate may enquire, from the Dean of Engineering and Forestry, as to the Faculty Guideline on the application of restricted credit as described in the General Course and Examination Regulations.

## 11. Completion of the Non-academic Requirements

The non-academic requirements are:

- i. an approved, valid first aid certificate;
  - ii. approved course(s) of workshop training and/or workplace safety;
  - iii. at least 800 hours (100 days) of approved practical work; and
  - iv. submission of two satisfactory written work reports based on the practical work completed.
- (b) A candidate shall present a university approved first aid certificate which is valid at some time during the candidate's enrolment in the three professional years.
- (c) A candidate shall complete an approved course(s) of workshop training and/or workplace safety. This course(s) shall be completed before a candidate enrolls for any subject of the Second Professional Examination or within the first year of study if admitted directly to the Second Professional Examination.
  - (d) A candidate may apply in writing for exemption from any workshop training or workshop safety course to the Departmental Administrator.
  - (e) The practical work requirement shall normally be completed 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 College of Engineering website.
  - (f) Prior to commencement of each practical work period of employment a candidate shall notify the College of Engineering Office of details concerning the employment. The appropriate form is available on the student's practical work record in UCStudent Web or can be obtained from the College of Engineering Office or from the College website. Lists of employers' addresses are available at the College of Engineering Office.
  - (g) A candidate shall submit two satisfactory written reports covering different types of practical work. Reports shall be submitted not later than the first Monday in April immediately following the period of work reported on. Different deadlines apply to students wishing to graduate (see (i)). 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 towards a candidate's course only after a satisfactory report is received from the candidate's employer.
  - (h) Practical work shall be credited on the following basis:
    - i. Credit is given only for hours worked;
    - ii. A day is defined as eight (8) hours work;
    - iii. Not more than 60 hours are credited in any one week.
  - (i) Candidates 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.
  - (j) 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 Dean of Engineering and Forestry may accept such work as partial or total exemption from the above practical work requirements. Candidates may apply in writing for an exemption of the practical work requirements to the College Practical Work Coordinator.

- (k) Candidates are required to familiarise themselves with the practical work requirements by reading the guidelines on the College website.
- (l) The Dean of Engineering and Forestry may modify the application of clauses (a)-(k) in individual cases.

## 12. Intermediate Examination

The Programme of Study shall consist of:

- (a) All courses in Schedule A
- (b) Courses from Schedule B to meet the prerequisites of at least one engineering programme.
- (c) Additional courses, where required, to ensure a workload of not less than 120 points.
- (d) Subject to the approval of the Dean of Engineering and Forestry, candidates may be approved into a modified Intermediate Year based on high achievement in NCEA or other equivalent examination, or through recognised prior learning at another tertiary institution.

### Schedule A - Compulsory for all Engineering Intermediate students

- (1) ENGR 101 Foundations of Engineering
- (2) EMTH 118 Engineering Mathematics 1A
- (3) EMTH 119 Engineering Mathematics 1B
- (4) PHYS 101 Engineering Physics A: Mechanics, Waves and Thermal Physics

### Schedule B - Engineering specialisations

#### Chemical and Process Engineering

- (1) CHEM 111 Chemical Principles and Processes
- (2) EMTH 171 Mathematical Modelling & Computation

#### Civil Engineering, Forest Engineering and Natural Resources Engineering

- (1) CHEM 111 Chemical Principles and Processes
- (2) EMTH 171 Mathematical Modelling & Computation
- (3) ENGR 102 Engineering Mechanics and Materials

#### Computer Engineering and Electrical and Electronic Engineering

- (1) COSC 121 Introduction to Computer Programming

- (2) Either EMTH 171 Mathematical Modelling & Computation, or MATH 120 Discrete Mathematics
- (3) PHYS 102 Engineering Physics B: Electromagnetism, Modern Physics and "How Things Work"

#### Mechanical Engineering

- (1) EMTH 171 Mathematical Modelling & Computation
- (2) ENGR 102 Engineering Mechanics and Materials
- (3) At least two of:
  - (a) COSC 121 Introduction to Computer Programming
  - (b) PHYS 102 Engineering Physics B: Electromagnetism, Modern Physics and "How Things Work"
  - (c) Either CHEM 114 Foundations of Chemistry, or CHEM 111 Chemical Principles and Processes

#### Mechatronics Engineering

- (1) COSC 121 Introduction to Computer Programming
- (2) PHYS 102 Engineering Physics B: Electromagnetism, Modern Physics and "How Things Work"
- (3) ENGR 102 Engineering Mechanics and Materials
- (4) EMTH 171 Mathematical Modelling & Computation

#### Software Engineering\*

- (1) COSC 121 Introduction to Computer Programming
- (2) COSC 122 Introduction to Computer Science
- (3) MATH 120 Discrete Mathematics

\*(Subject to UNZ CUAP approval due December 2012)

## 13. Professional Examination

The professional examinations are laid out in regulations 13 – 41. Candidates should note the following:

- (a) Not all elective courses will necessarily be available in any one year. Candidates should consult the relevant Directors of Studies concerning the courses to be taught and the alternative degree courses that might be approved.
- (b) In consultation with employers, the department recommends candidates select certain courses or pathways of elective courses. Candidates are advised to consult the relevant department's website for the latest recommended pathways.
- (c) Candidates may attempt the Third Professional Year Project if they will be completing their degree within 3 semesters or less.

## Chemical and Process Engineering

### 14. First Professional Examination

- (1) EMTH 210 Engineering Mathematics 2
- (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

### 15. Second Professional Examination

- (1) ENCH 390 Process Analysis
- (2) ENCH 391 Process Systems and Control
- (3) ENCH 392 Thermodynamics and Chemical Reaction Engineering
- (4) ENCH 393 Fluid Mechanics and Heat Transfer
- (5) ENCH 394 Process Engineering Design 2
- (6) ENCH 395 Process Engineering Laboratories
- (7) ENCH 396 Chemical Engineering Separations 1
- (8) One course selected from Schedule A listed below.

### 16. Third Professional Examination

- (1) ENCH 494 Process Engineering Design 3
- (2) ENCH 495 Research Project
- (3) ENCH 496 Advanced Separation
- (4) ENCH 497 Process Management
- (5) One course selected from Schedule B listed below
- (6) One course selected from either Schedule A or B listed below or any 400-level 15 point Engineering paper.

#### Schedule A

- (a) ENGR 404 Renewable Energy Technologies and Management
- (b) ENGR 405 Industrial Pollution Control
- (c) ENGR 406 Wood and Engineered Wood Products Processing
- (d) ENGR 407 Bioprocess Engineering 1
- (e) ENCH 486 Special Topic in Chemical and Process Engineering

#### Schedule B

- (a) ENGR 401 Computational Fluid Dynamics
- (b) ENCH 482 Bioprocess Engineering 2
- (c) ENCH 487 Special Topic in Chemical and Process Engineering
- (d) ENCH 491 Advanced Process Control and Simulation
- (e) ENCH 492 Advanced Reaction Engineering

- (f) Any 400-level Engineering course approved by the Director of Studies

### 17. Minor in Bioprocessing Engineering\*

*\*(Subject to UNZ CUAP approval due December 2012)*

- (a) ENCH 281 Principles of Biology for Engineers
- (b) ENGR 407 Bioprocess Engineering 1
- (c) ENCH 482 Bioprocess Engineering 2
- (d) ENCH 494 Process Engineering Design 3\*\*
- (e) ENCH 495 Research Project\*\*

*\*\*Note: ENCH 494 Process Engineering Design 3 and ENCH 495 Research Project must be taken with an approved bioprocess engineering focus as approved by the Director of Studies.*

## Civil Engineering

### 18. First Professional Examination

- (1) ENCN 201 Communication Skills Portfolio 1
- (2) EMTH 210 Engineering Mathematics 2
- (3) ENCN 213 Design Studio 1
- (4) ENCN 221 Engineering Materials
- (5) ENCN 231 Solid Mechanics
- (6) ENCN 242 Fluid Mechanics and Hydrology
- (7) ENCN 253 Soil Mechanics
- (8) ENCN 261 Transport and Surveying
- (9) ENCN 281 Environmental Engineering

*Note: Candidates are required to attend the First Professional Examination Camp. Work at the camp will form part of the assessment for ENCN 261 Transport and Surveying.*

### 19. Second Professional Examination

- (1) ENCN 301 Communication Skills Portfolio 2
- (2) ENCI 313 Civil Engineering Design Studio 2
- (3) ENCI 335 Structural Analysis
- (4) ENCI 336 Structural Design
- (5) ENCN 304 Deterministic Mathematical Methods
- (6) ENCN 305 Computer Programming and Stochastic Modelling
- (7) ENCN 342 Fluid Mechanics and Hydraulics
- (8) ENCN 353 Geotechnical Engineering
- (9) ENCN 371 Project and Infrastructure Management

### 20. Third Professional Examination\*

*\*(Subject to UNZ CUAP approval due December 2012.)*

- (1) ENCN 493 Project
- (2) ENCN 470 Professional Engineering Development
- (3) Sufficient courses selected from:
  - (a) ENCI 423 Structural Dynamics
  - (b) ENCI 425 Structural Steel
  - (c) ENCI 426 Concrete Structures

- (d) ENCI 427 Timber Structures
- (e) ENCI 429 Structural Systems
- (f) ENCN 401 Engineering in Developing Communities
- (g) ENCN 412 Traffic Engineering
- (h) ENCN 415 Pavement Engineering
- (i) ENCN 444 Water Infrastructure and Design
- (j) ENCN 445 Environmental Fluid Mechanics
- (k) ENCN 452 Advanced Geotechnical Engineering
- (l) ENCN 454 Geotechnical Earthquake Engineering
- (m) ENCN 481 Environmental Engineering Design
- (n) ENGR 403 Introduction to Fire Engineering
- (o) ENGE 411 Engineering Geology in Construction Practice
- (p) ENGE 412 Rock Mechanics and Engineering
- (q) ENGE 415 Engineering Geomorphology
- (r) GEOL 475 Environmental and Engineering Geophysics
- (s) Any 15 point 400-level option to be approved by the Director of Studies
- (t) Candidates with a GPA of 6 or more may apply to take one 600-level course approved by the Director of Studies.

*Note: In exceptional circumstances, approved by the Director of Studies, a candidate may offer ENCN 494 in lieu of ENCN 493*

## Computer Engineering

### 21. First Professional Examination

- (1) EMTH 210 Engineering Mathematics 2
- (2) EMTH 211 Engineering Linear Algebra and Statistics
- (3) ENEL 200 Electrical and Computer Engineering Design
- (4) ENEL 220 Circuits and Signals
- (5) ENEL 270 Principles of Electronics and Devices
- (6) ENCE 260 Computer Systems
- (7) COSC 261 Foundations of Computer Science
- (8) COSC 264 Data Communications and Networking

### 22. Second Professional Examination

- (1) ENCE 360 Operating Systems
- (2) ENCE 361 Embedded Systems 1
- (3) ENCE 362 Digital Electronics
- (4) ENEL 300 Electrical and Computer Engineering Design 2
- (5) ENEL 301 Fundamentals of Engineering Economics and Management
- (6) ENEL 320 Signals and Communications
- (7) ENEL 321 Control Systems
- (8) Sufficient courses selected from:

- (a) SENG 201 Software Engineering 1
- (b) COSC 363 Computer Graphics
- (c) COSC 364 Internet Technology and Engineering
- (d) COSC 368 Humans and Computers
- (e) ENEL 370 Electronics 1
- (f) Any 15 point 300-level option to be approved by the Director of Studies

### 23. Third Professional Examination\*

\*(Subject to UNZ CUAP approval due December 2012)

- (1) ENEL 400 Electrical and Computer Engineering Research Project
- (2) ENCE 461 Embedded Systems 2
- (3) ENCE 462 Advanced Computer Architecture
- (4) ENCE 463 Embedded Software Engineering
- (5) Sufficient courses selected from:
  - (a) COSC 411 Advanced Topics in HCI
  - (b) COSC 418 Ad hoc Networks
  - (c) COSC 422 Advanced Computer Graphics
  - (d) COSC 428 Computer Vision
  - (e) ENEL 420 Advanced Signals
  - (f) ENEL 422 Communications Engineering
  - (g) ENEL 470 Electronics 2
  - (h) ENEL 490 Electromagnetics
  - (i) ENME 403 Linear Systems Control and System Identification
  - (j) Any 15 point 400-level option to be approved by the Director of Studies

## Electrical and Electronic Engineering

### 24. First Professional Examination

- (1) EMTH 210 Engineering Mathematics 2
- (2) EMTH 211 Engineering Linear Algebra and Statistics
- (3) ENEL 200 Electrical and Computer Engineering Design
- (4) ENEL 220 Circuits and Signals
- (5) ENEL 270 Principles of Electronics and Devices
- (6) ENEL 280 Principles of Electrical Systems
- (7) ENEL 290 Waves and Materials in Electrical Engineering
- (8) ENCE 260 Computer Systems

### 25. Second Professional Examination

- (1) ENEL 300 Electrical and Computer Engineering Design 2
- (2) ENEL 301 Fundamentals of Engineering Economics and Management
- (3) ENEL 320 Signals and Communications
- (4) ENEL 321 Control Systems
- (5) Sufficient courses selected from:
  - (a) ENEL 370 Electronics 1
  - (b) ENEL 371 Power Electronics 1

- (c) ENEL 380 Power Systems 1
- (d) ENEL 381 Electrical Machines 1
- (e) ENEL 391 Electronic Devices
- (f) ENCE 361 Embedded Systems 1
- (g) ENCE 362 Digital Electronics
- (h) Any 15 point 300-level option to be approved by the Director of Studies

### 26. Third Professional Examination\*

\*(Subject to UNZ CUAP approval due December 2012)

- (1) ENEL 400 Electrical and Computer Research Project
- (2) Sufficient courses selected from:
  - (a) ENCE 461 Embedded Systems 2
  - (b) ENCE 462 Advanced Computer Architecture
  - (c) ENCE 463 Embedded Software Engineering
  - (d) ENEL 420 Advanced Signals
  - (e) ENEL 422 Communications Engineering
  - (f) ENEL 470 Electronics 2
  - (g) ENEL 471 Power Electronics 2
  - (h) ENEL 480 Electrical Systems 3
  - (i) ENEL 481 Electrical Machines 2
  - (j) ENEL 490 Electromagnetics
  - (k) ENEL 491 Nano Engineered Electronics
  - (l) ENME 403 Linear Systems Control and System Identification
- (m) Any 15 point 400-level option to be approved by the Director of Studies

## Forest Engineering

### 27. First Professional Examination

- (1) EMTH 210 Engineering Mathematics 2
- (2) FORE 205 Introduction to Forest Engineering
- (3) FORE 215 Introduction to Forest Economics
- (4) ENCN 213 Design Studio 1
- (5) ENCN 221 Engineering Materials
- (6) ENCN 231 Solid Mechanics
- (7) ENCN 253 Soil Mechanics
- (8) ENFO 204 Forest Measurement

### 28. Second Professional Examination

- (1) ENCN 305 Computer Programming and Stochastic Modelling
- (2) ENCN 353 Geotechnical Engineering
- (3) ENCN 371 Project and Infrastructure Management
- (4) ENFO 327 Wood Science
- (5) ENNR 320 Integrated Catchment Analysis or ENCI 335 Structural Analyses
- (6) FORE 316 Forest Management
- (7) FORE 342 Geospatial Technologies in Forestry

Note: Candidates are required to attend the Second Professional Examination Camp. Work at the camp will

form part of the assessment for ENCN 371 Infrastructure Management.

### 29. Third Professional Examination\*

\*(Subject to UNZ CUAP approval due December 2012.)

- (1) FORE 422 Forest Harvest Planning
- (2) FORE 423 Forest Transportation and Road Design
- (3) ENFO 411 Forest Engineering Research and Design
- (4) ENFO 420 Harvest System Evaluation
- (5) Sufficient courses selected from:
  - (a) FORE 426 Forest Products Marketing and International Trade
  - (b) FORE 435 Advanced Forest Economics
  - (c) FORE 443 Biosecurity Risk Management
  - (d) ENGR 403 Introduction to Fire Engineering
  - (e) ENGR 406 Wood and Engineering Wood Products
  - (f) ENNR 423 Sustainable Energy Systems
  - (g) ENCN 415 Pavement Engineering
  - (h) ENCN 452 Advanced Geotechnical Engineering
  - (i) ENGE 412 Rock Mechanics and Engineering
  - (j) Any 15 point 400-level option to be approved by the Director of Studies

## Mechanical Engineering

### 30. First Professional Examination

- (1) EMTH 210 Engineering Mathematics 2\*
- (2) EMTH 271 Mathematical Modelling and Computation 2
- (3) ENME 201 Design Communication
- (4) ENME 202 Stress, Strain and Deformation in Machine Elements
- (5) ENME 203 Dynamics and Vibrations
- (6) ENME 204 Introduction to Thermo-fluids Engineering
- (7) ENME 207 Materials Science and Engineering
- (8) ENME 221 Engineering Design and Manufacture

\*(Subject to UNZ CUAP approval due December 2012.)

### 31. Second Professional Examination

- (1) ENME 301 Engineering Design and Production Quality
- (2) ENME 302 Computational and Applied Mechanical Analysis
- (3) ENME 303 Controls and Vibrations
- (4) ENME 304 Engineering Fluid Mechanics
- (5) ENME 305 Thermodynamics and Heat Transfer
- (6) ENME 307 Performance of Engineering Materials
- (7) ENME 311 Engineering Design and Production

Management

- (8) ENME 313 Electro Technology for Mechanical Engineers

### 32. Third Professional Examination\*

\*(Subject to UNZ CUAP approval due December 2012.)

- (1) ENME 408 Honours Research and Development Project
- (2) ENME 401 Mechanical Systems Design
- (3) ENME 418 Engineering Management and Professional Practice for Mechanical Engineers
- (4) Sufficient courses selected from:
- (a) ENGR 401 Computational Fluid Dynamics
- (b) ENME 402 Advanced Vibrations and Acoustics
- (c) ENME 403 Linear Systems Control and System Identification
- (d) ENME 404 Aerodynamics and Ground Vehicle Dynamics
- (e) ENME 405 Energy Systems Engineering
- (f) ENME 406 Engineering Product Design and Analysis
- (g) ENME 407 Advanced Materials Science and Engineering
- (h) ENME 409 Physiological Simulation
- (i) ENME 411 Advanced Mechanical System Design
- (j) ENME 413 Robotics
- (k) ENME 414 Special Topic: Thermo-Fluids Transport
- (l) ENME 415 Advanced Heat and Mass Transfer
- (m) ENME 417 Advanced Composite, Polymeric and Ceramic Materials
- (n) ENME 419 Biological Fluid Dynamics
- (o) ENME 423 Instrumentation and Sensors
- (p) ENME 480 Independent course of Study
- (q) ENME 481 Special Topic in Mechanical Engineering
- (r) MDPH 401 Anatomy and Physiology
- (s) Any 15 point 400-level option approved by the Director of Studies.

## Mechatronics Engineering

### 33. First Professional Examination

- (1) EMTH 210 Engineering Mathematics 2
- (2) EMTH 211 Engineering Linear Algebra and Statistics
- (3) ENCE 260 Computer Systems
- (4) ENEL 270 Principles of Electronics and Devices
- (5) ENME 202 Stress, Strain and Deformation in Machine Elements
- (6) ENME 203 Dynamics and Vibrations
- (7) ENMT 201 Mechatronics Design

### 34. Second Professional Examination

- (1) ENMT 301 Mechatronic System Design
- (2) ENCE 361 Embedded Systems 1
- (3) ENCE 362 Digital Electronics or ENEL 301 Fundamentals of Engineering Economics and Management
- (4) ENEL 371 Power Electronics 1
- (5) ENME 204 Introduction to Thermo-Fluids Engineering
- (6) ENME 302 Computational and Applied Mechanical Analysis
- (7) ENME 303 Controls and Vibrations

### 35. Third Professional Examination\*

\*(Subject to UNZ CUAP approval due December 2012.)

- (1) ENMT 401 Mechatronics Honours Research and Development Project
- (2) ENME 403 Linear Systems Control and System Identification
- (3) Sufficient courses selected from:
- (a) COSC 428 Computer Vision
- (b) ENCE 461 Embedded Systems 2
- (c) ENCE 462 Advanced Computer Architecture
- (d) ENCE 463 Software Applications
- (e) ENEL 471 Power Electronics 2
- (f) ENME 402 Advanced Vibrations and Acoustics
- (g) ENME 404 Aerodynamics and Ground Vehicle Dynamics
- (h) ENME 406 Engineering Product Design and Analysis
- (i) ENME 409 Physiological Simulation
- (j) ENME 413 Robotics
- (k) ENME 414 Special Topic: Thermo-Fluids Transport
- (l) ENME 418 Engineering Management and Professional Practice for Mechanical Engineers
- (m) ENME 423 Instrumentation and Sensors
- (n) Any 15 point 400-level option to be approved by the Director of Studies

Note: Candidates must offer either ENEL 301 or ENME 418 in the Mechatronics programme.

## Natural Resources Engineering

### 36. First Professional Examination

- (1) EMTH 210 Engineering Mathematics 2
- (2) ENCN 201 Communication Skills Portfolio 1
- (3) ENCN 213 Design Studio 1
- (4) ENCN 221 Engineering Materials
- (5) ENCN 231 Solid Mechanics
- (6) ENCN 242 Fluid Mechanics and Hydrology
- (7) ENCN 253 Soil Mechanics

(8) ENCN 261 Transport and Surveying

(9) ENCN 281 Environmental Engineering

*Note: Candidates are required to attend the First Professional Examination Camp. Work at the camp will form part of the assessment for ENCN 261 Transport and Surveying.*

### 37. Second Professional Examination

(1) ENNR 313 Natural Resources Engineering Design Studio 2

(2) ENNR 320 Integrated Catchment Analysis

(3) ENNR 322 Ecological Engineering

(4) ENCN 301 Communication Skills Portfolio 2

(5) ENCN 304 Deterministic Mathematical Methods

(6) ENCN 305 Computer Programming and Stochastic Modelling

(7) ENCN 342 Fluid Mechanics and Hydraulics

(8) ENCN 353 Geotechnical Engineering or ENGE 486 Engineering Geomorphology

(9) ENCN 371 Project and Infrastructure Management

*Note: Candidates are required to attend the Second Professional Year site visit tour. The tour will form part of the assessment for ENNR 313 Natural Resources Engineering Design Studio 2.*

### 38. Third Professional Examination\*

*\*(Subject to UNZ CUAP approval due December 2012.)*

(1) ENCN 493 Project

(2) ENCN 470 Professional Engineering Development

(3) Sufficient courses selected from:

(a) ENNR 405 Ecological and Bioresources Engineering

(b) ENNR 422 Water Resources and Irrigation Engineering

(c) ENNR 423 Sustainable Energy Systems

(d) ENCN 401 Engineering in Developing Communities

(e) ENCN 412 Traffic Engineering

(f) ENCN 415 Pavement Engineering

(g) ENCN 444 Water Infrastructure and Design

(h) ENCN 445 Environmental Fluid Mechanics

(i) ENCN 452 Advanced Geotechnical Engineering

(j) ENCN 454 Geotechnical Earthquake Engineering

(k) ENCN 481 Environmental Engineering Design

(l) ENGR 403 Introduction to Fire Engineering

(m) ENGE 411 Engineering Geology in Construction Practice

(n) ENGE 412 Rock Mechanics and Engineering

(o) ENGE 415 Engineering Geomorphology

(p) GEOL 475 Environmental and Engineering

Geophysics

(q) Any 15 point 400-level option to be approved by the Director of Studies

(r) Candidates with a GPA of 6 or more may apply to take one 600-level course approved by the Director of Studies

*Note: In exceptional circumstances, approved by the Director of Studies, a candidate may offer ENCN 494 in lieu of ENCN 493.*

### Software Engineering\*

*\*(Subject to UNZ CUAP approval due December 2012.)*

### 39. First Professional Examination

(1) SENG 201 Software Engineering 1

(2) SENG 202 Software Engineering Project

(3) COSC 261 Foundations of Computer Science

(4) COSC 262 Algorithms

(5) COSC 265 Relational Database Systems

(6) ENCE 260 Computer Systems

(7) Sufficient courses selected from schedules A and B below. Courses selection must include at least one course from Schedule A.

#### Schedule A

(a) EMTH 210 Engineering Mathematics 2

(b) MATH 220 Discrete Mathematics and Cryptography

#### Schedule B

(a) COSC 264 Data Communications and Networking

(b) EMTH 211 Engineering Linear Algebra and Statistics

(c) MATH 230 Logic, Automata, and Computability

### 40. Second Professional Examination

*Note: Offered in 2014.*

(1) SENG 301 Software Engineering 2

(2) SENG 302 Software Engineering Group Project

(3) SENG 365 Web Computing Architectures

(4) COSC 368 Humans and Computers

(5) ENEL 301 Design and Management

(6) Sufficient courses selected from:

(a) COSC 362 Network and Data Security

(b) COSC 363 Computer Graphics

(c) COSC 364 Internet Technology and Engineering

(d) COSC 367 Computational Intelligence

(e) ENCE 360 Operating Systems

(f) ENCE 361 Embedded Systems 1

(g) ENCE 362 Digital Electronics

(h) Any 15 point 300-level option to be approved

by the Director of Studies

#### 41. Third Professional Examination

Note: Offered in 2015.

- (1) SENG 401 Advanced Object-Oriented Design
- (2) SENG 402 Software Engineering Research

Project

- (3) COSC 424 Secure Software
- (4) Sufficient 400-level courses selected from COSC, SENG and ENCE approved by the Director of Studies

## 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) Restricted Credit  
A candidate may enquire from the Dean of Engineering and Forestry as to the Faculty Guideline on the application of restricted credit as described in the General Course and Examination Regulations.
- (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 131 Trees in the Landscape
- (5) FORE 141 Forest Growth and Measurements
- (6) FORE 151 Commercial Aspects of Forestry
- (7) STAT 101 Statistics 1

- (8) Any 15 points of Chemistry at 100-level

Notes:

1. CHEM 114 - Foundations of Chemistry is the recommended option for the 100-level Chemistry course.
2. Students enrolling in the First Forestry Examination at Canterbury must complete FORE 111. Students completing the First Forestry Examination at another university should complete FORE 102 as part of their examination, in lieu of FORE 111. FORE 102 is also available for students who are intending to do Forestry and who are unable to attend FORE 111 on campus.
3. A candidate who has failed to gain a pass in all of the courses of the First Forestry Examination 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.
4. The Chair, Forestry Board of Studies, in consultation with the Dean of Engineering and Forestry, may modify the First Forestry Examination based on prior learning.

#### 3. Second Forestry Examination

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

- (1) FORE 205 Forest Engineering
- (2) FORE 215 Introduction to Forest Economics
- (3) FORE 218 Forest Biology
- (4) FORE 219 Introduction to Silviculture
- (5) FORE 222 Biometry 1A
- (6) FORE 224 Biometry 1B
- (7) SOIL 203 Soil Fertility

Note: A candidate who has failed to gain a pass in all of the courses of the Second Forestry Examination 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 307 Plantation Silviculture

- (2) FORE 316 Forest Management
- (3) FORE 327 Wood Science
- (4) FORE 342 Geospatial Technologies in Forestry
- (5) One course from either the Bachelor of Forestry Science 400-level schedule elective list or one course of at least 15 points from courses offered for any other degree at the 200-level or above.

*Note: A candidate who has failed to gain a pass in all of the courses of the Third Forestry Examination 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.*

### 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 four electives from:
  - (a) FORE 404–409 Special Topics
  - (b) FORE 422 Forest Harvest Planning
  - (c) FORE 423 Forest Transportation and Road Design
  - (d) FORE 426 Forest Products Marketing and International Trade
  - (e) FORE 435 Forest Economics 2
  - (f) FORE 436 Forest Tree Breeding
  - (g) FORE 441 Engineered Wood Products
  - (h) FORE 443 Biosecurity Risk Management
  - (i) FORE 475 Independent Course of Study
  - (j) Up to 30 points from courses offered at 300-level or above for any other degree.

Notes:

1. *A candidate's course of study shall be subject to the approval of the Dean of Engineering and Forestry.*
2. *A BForSc student may credit no more than 30 points from other degrees toward BForSc in total in Year 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:

- (a) 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.
- (b) Practical work will be credited to a candidate's course only after confirmation by the candidate's employer of the number of days worked.
- (c) The Head of the School of Forestry may relax or modify the application of clauses (a) and (b) in individual cases.
- (d) 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

# 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

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 15 points (0.125 EFT) from the Bachelor of Commerce Schedule in place of any FORE 400-level 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 180 points above 100-level in courses selected from the Schedule of Bachelor of Science which have not been credited to the Degree of Bachelor of Forestry Science or used to obtain exemption from a course in that degree. Of these points, 90 must be from 300-level courses, and include at least 60 points from a single subject or as required by the subject major. The remainder of the points must come from approved 200-level 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 15 points or 300-level courses equivalent to 15 points from the Bachelor of Science schedule for any FORE 400-level 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.

- 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 must complete courses which have a minimum weighting of 120 points. At least 90 points shall be from the 300- and 400-level Forestry courses.

## 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*.

## 1. Requirements of the Degree

Every candidate for the Degree of Master of Engineering shall follow a course of study approved by the Dean of Engineering and Forestry and Director of Postgraduate Studies as laid down in these Regulations, or those consistent with the regulations in the relevant Calendar at the time they began their candidacy. In special circumstances the Dean of Engineering and Forestry may modify specific aspects of the degree regulations for individual candidates.

## 2. Qualifications Required to Enrol in the Degree

A candidate shall have:

- (a) either
  - 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 5.0 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 stum 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:

1. *Relevance and standard of previous study are the main criteria for approval.*
2. *Candidates will be approved only if appropriate research supervision and resources are available.*

## 3. Structure of the Degree\*

*\*(Subject to UNZ CUAP approval due December 2012)*

- (a) The degree must be completed by:
  - i. a thesis of 120 points; and
  - ii. up to 45 points coursework.
- (b) Each candidate must complete a programme of study in an area of specialisation selected from those specialisations listed in Schedule A.

## 4. Endorsements

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

*\*(Subject to UNZ CUAP approval due December 2012.)*

## 5. Coursework Requirements

- (a) In consultation with a candidate's intended thesis supervisory team, and subject to the requirements of the specialisation listed in Schedule A, a candidate should select appropriate courses from Schedule B that will best support their research.
- (b) In some cases it may not be necessary for a candidate to offer 45 points in course work.
- (c) A candidate may select courses not on Schedule B if they are deemed necessary to support their

research plan.

- (d) The intended programme of study must be approved by the appropriate Director of Studies and the Dean of Engineering and Forestry

### 6. 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 and not more than three years.
  - ii. A full-time candidate will normally be expected to expend a minimum of 30 hours per week on their studies over a calendar year.
  - iii. 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 more than four years.
- (c) Candidates must 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 to the Dean of Engineering and Forestry for a suspension.

### 7. ME with Distinction

Candidates who obtain a GPA of 8.0 or more in their programme of study will be eligible for the award of ME with Distinction.

### 8. 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.

### 9. Transfer from ME to MEngSt or PGCertEng

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 or Postgraduate Certificate of Engineering subject to satisfying the regulation requirements of the MEngSt or PGCertEng.

### 10. 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 Dean of Postgraduate Research.

### 11. 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.

### 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 may transfer to the Master of Engineering provided the following conditions have been met:
- i. The candidate has completed 45 points 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.

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

### Bioengineering

Required course: ENBI 601

Thesis: ENBI 690

### Construction Management

Thesis: ENCM 690 and at least 30 points from the Construction Management course list listed in schedule B of the ME Regulations.

### Chemical and Process Engineering

Thesis: ENCH 690

### Civil Engineering

Thesis: ENCI 690 and at least 30 points from the Civil Engineering course list listed in schedule B of the ME Regulations.

### Earthquake Engineering\*

\*(Subject to UNZ CUAP approval due December 2012.)

Thesis: ENEQ 690 and at least 45 points from the Earthquake Engineering course list listed in schedule B of the ME Regulations.

*Note: Candidates with an insufficient academic background in Earthquake Engineering may be required to take a bridging course or courses prior to being approved into the programme.*

### 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

- (1) ENBI 601 Medical Bioengineering
- (2) ENBI 605 Biomedical Engineering Simulations

### Chemical and Process Engineering

- (1) ENCH 602 Computational Fluid Dynamics
- (2) ENCH 603 Physical, Chemical and Analytical Techniques
- (3) ENCH 606 Advanced Process Simulation
- (4) ENCH 607 Modelling and Numerical Methods

### Civil Engineering

- (1) ENCI 601 Risk Management
- (2) ENCI 612 Bridge Structure
- (3) ENCI 621 Concrete Materials and Practice
- (4) ENCI 629 Special Topic: Structural Bridge Engineering
- (5) ENCI 634 Water and Soil Chemistry
- (6) ENCI 635 Ecological Engineering
- (7) ENCI 636 Advanced Biological Waste Processes
- (8) ENCI 637 Marine Pollution Modelling
- (9) ENCI 638 Environmental Fluid Dynamics
- (10) ENCI 639 Advanced water hammer analysis and design
- (11) ENCI 641 Environmental Systems Engineering 1
- (12) ENCI 642 Environmental Systems Engineering 2
- (13) ENCI 660 Special Topic: Advanced Physical-Chemical Water/Wastewater Treatment

### Computer Science

- (1) COSC 410 Simulation Modelling and Analysis
- (2) COSC 424 Secure Software

- (3) COSC 426 Augmented Reality

### Construction Management

- (1) ENCI 601 Risk Management
- (2) ENCM 610 Construction Management
- (3) ENCM 620 Construction Procurement and Contract Administration
- (4) ENCM 630 Project Management, Planning and Control Techniques
- (5) ENCM 640 Strategic Management in Construction
- (6) ENCM 650 Cost Engineering
- (7) ENCM 682 Research Project
- (8) ENTR 604 Road Asset Management

### Earthquake Engineering\*

\*(Subject to UNZ CUAP approval due December 2012.)

- (1) ENCI 601 Risk Management
- (2) ENCI 621 Concrete Materials and Practice
- (3) ENEQ 610 Engineering Seismology
- (4) ENEQ 620 Advanced Geotechnical Earthquake Engineering
- (5) ENEQ 640 Displacement-based Seismic Design of Damage-Resisting Concrete Structures
- (6) ENEQ 641 Non-linear Concrete Mechanics and Modelling Techniques
- (7) ENEQ 650 Advanced Steel and Composite Structures
- (8) ENEQ 670 Seismic Bridge Engineering
- (9) ENEQ 680 Seismic Performance and Loss Estimation

**Electrical and Electronic Engineering**

- (1) ENEL 614 Biomedical Engineering
- (2) ENEL 619 Computational Image Recovery
- (3) ENEL 650 Advanced Digital Communications
- (4) ENEL 657 Applied Digital Signal Processing
- (5) ENEL 675 Special Topic: Advanced Embedded Systems
- (6) ENEL 685 Electrical Postgraduate Project

**Engineering**

- (1) ENGR 601 Advanced Computational Fluid Dynamics
- (2) ENGR 684 Special Topic: Parallel Computing Architectures
- (3) ENGR 685 Special Topic: Structured Programming for Scientific Computing
- (4) RNGR 686 Special Topic: Structured Programming for Scientific Computing
- (5) ENGR 687 Special Topic: Structured Programming for Scientific Computing

**Forestry Science**

- (1) FORE 606 Forest Transport
- (2) FORE 607 Forest Harvesting
- (3) FORE 609 Advanced Wood-based Composites
- (4) FORE 616 Restoration Ecology
- (5) FORE 641 Plantation Forest Management
- (6) FORE 642 Advanced IT Applications in Forestry

**Fire Engineering**

- (1) ENCI 601 Risk Assessment
- (2) ENFE 601 Structural Fire Engineering
- (3) ENFE 602 Fire Dynamics
- (4) ENFE 603 Fire Safety Systems
- (5) ENFE 604 Fire Design Case Study
- (6) ENFE 610 Advanced Fire Dynamics
- (7) ENFE 681 Project
- (8) ENFE 682 Project
- (9) ENFE 683 Project

**Mechanical Engineering**

- (1) ENME 601 Product Innovation
- (2) ENME 601 Mechanical Systems Design
- (3) ENME 602 Advanced Vibrations and Acoustics
- (4) ENME 603 Advanced Linear Systems Control and System Identification
- (5) ENME 604 Advanced Aerodynamics and Ground Vehicle Dynamics
- (6) ENME 605 Advanced Energy Systems Engineering
- (7) ENME 606 Advanced Engineering Product Design and Analysis
- (8) ENME 607 Advanced Materials Science and Engineering
- (9) ENME 609 Advanced Physiological Modelling

- (10) ENME 611 Advanced Mechanical System Design
- (11) ENME 612 Mechanical Vibrations and Acoustics of Continuous Systems
- (12) ENME 613 Advanced Robotics
- (13) ENME 615 Advanced Heat and Mass Transfer
- (14) ENME 617 Advanced Composite, Polymeric and Ceramic Materials
- (15) ENME 618 Advanced Engineering Management and Professional Practice for Mechanical Engineers
- (16) ENME 619 Advanced Biological Fluid Dynamics
- (17) ENME 623 Advanced Instrumentation and Sensors

**Engineering Mathematics**

- (1) EMTH 600 Dynamical Systems
- (2) EMTH 601 Continuous Biological Systems
- (3) EMTH 602 Fluid Mechanics
- (4) EMTH 603 Numerical Solution of Partial Differential Equations
- (5) EMTH 604 Unconstrained Optimisation
- (6) EMTH 605 Approximation Theory
- (7) EMTH 606 Algebraic and Symbolic Computation
- (8) EMTH 607 Coding Theory
- (9) EMTH 608 Industrial Case Studies

**Core courses for the endorsement for PGCertEng and MEngst**

- i. EMTH 611 Advanced Mathematical Methods
- ii. EMTH 612 Advanced Computational Techniques
- iii. EMTH 613 Advanced Statistical Methods
- iv. EMTH 614 Advanced Differential Equations
- v. EMTH 620 High Performance Technical Computing

**Transport Engineering**

- (1) ENTR 602 Accident Reduction and Prevention
- (2) ENTR 603 Advanced Pavement Design
- (3) ENTR 604 Road Asset Management
- (4) ENTR 611 Planning and Managing for Transport
- (5) ENTR 612 Transport Policy and Demand Management
- (6) ENTR 613 Highway Geometric Design
- (7) ENTR 614 Planning and Design of Sustainable Transport
- (8) ENTR 615 Transport Network Modelling
- (9) ENTR 616 Advanced Transport Planning and Modelling
- (10) ENTR 617 Traffic Engineering and Design
- (11) ENTR 618 Transport and Freight Logistics

**Notes:**

1. *Not all courses will be offered in any one year. Students are advised to contact the College of Engi-*

neering for an up to date list of courses offered.

2. Special topics are available in Chemical and Process Engineering, Civil Engineering, Earthquake 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.

3. With the approval of the Director of the Construction Management Programme, students may credit up to two courses offered in the Construction Management Programme at the University of Auckland.  
\*(Subject to UNZ CUAP approval due December 2012.)

## 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) either
  - 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 Honours in appropriate subjects; or
  - iv. in exceptional circumstances, qualified for the award of an appropriate degree in New Zealand; or
  - v. been admitted ad eundem statum as entitled to proceed to the Degree of Master of Engineering in Fire Engineering; and
- (b) 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. Candidates who do not have an appropriate background in fire engineering, may be required to take ENGR 403 Introduction to Fire Engineering prior to being approved into the programme.

### 2. 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 must be completed full time by examination and thesis. 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:

1. With the approval of the supervisor and Director of the Fire Engineering programme, a 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.
2. Candidates are expected to be enrolled full-time on a continuous basis. If a candidate cannot be enrolled continuously due to circumstances beyond their control they must apply to the Dean of Engineering and Forestry for a suspension.

### 3. Programme of Study

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

- (a) enrol in and pursue full-time study for not less than one year four months and not more than three years a programme of study approved by the Dean of Engineering and Forestry; and
- (b) pass an examination in six courses selected from the Schedule to these regulations; and
- (c) present a thesis and satisfy the examiners therewith.

### 4. MEFE with Distinction

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

### 5. Theses

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

- (a) 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;
- (b) 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;

- (c) the candidate shall submit for examination two copies of the thesis;
- (d) 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);
- (e) 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; except with the approval of the Dean of Engineering and Forestry the thesis shall be submitted within the time limit of this degree.

### 6. 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.

### 7. Award of the Master of Engineering Studies 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 Master of Engineering Studies.

### 8. Award of a Postgraduate Certificate 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 Certificate in Engineering.

### 9. Transfer from PGCertEng to MEFE

Where a candidate has demonstrated research potential and has the support of the Fire 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 a minimum of 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.*

### 10. Transfer from MEngSt to MEFE

Where a candidate has demonstrated research potential and has the support of the Fire Programme Director, he or she may abandon the Master of Engineering Studies 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 Master of Engineering Studies may transfer to the Master of Engineering in Fire Engineering provided the following conditions have been met:
  - i. The candidate has completed a minimum of 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 MEngSt to the MEFE has been approved, the Dean of Engineering and Forestry will transfer appropriate courses from the candidate's MEngSt 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

For full course information, go to [www.canterbury.ac.nz/courses](http://www.canterbury.ac.nz/courses)

### Courses

- (1) ENCI 601 Risk Management
- (2) ENFE 601 Structural Fire Engineering
- (3) ENFE 602 Fire Dynamics
- (4) ENFE 603 Fire Safety Systems
- (5) ENFE 604 Fire Design Case Study
- (6) ENFE 610 Advanced Fire Dynamics
- (7) ENFE 612 Special Topic
- (8) ENFE 613 Special Topic: Human Behaviour in Fire
- (9) ENFE 614 Special Topic

### Thesis

ENFE 690

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) either
  - 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:

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.*

### 2. Structure of the Degree

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

- (a) enrol in and pursue full-time for one year a programme of study approved by the Dean of Engineering; and
- (b) during the year of study, pass an examination in

- six courses selected from the Schedule to these Regulations; and
- (c) 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:

- (a) 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;
- (b) 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;
- (c) the project report shall be submitted within one calendar year from the date upon which study for the Master of Engineering in Management commenced;
- (d) 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

For full course information, go to [www.canterbury.ac.nz/courses](http://www.canterbury.ac.nz/courses)

### Courses

- (1) ENMG 601 Engineering Accounting
- (2) ENMG 602 Engineering Economics and Finance
- (3) ENMG 603 Legal and Human Resource
- (4) ENMG 604 Technology, Innovation and Engineering Management
- (5) ENMG 605 Marketing, Selling and Service
- (6) ENMG 606 Strategic Management
- (7) ENMG 607 Special Topic

- (8) ENMG 608 Special Topic
- (9) 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) either
- 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 Honours in appropriate subjects; or
  - iv. in exceptional circumstances, qualified for the award of an appropriate degree in New Zealand; or
  - v. been admitted ad eundem statum as entitled to proceed to the Degree of Master of Engineering in Transportation; and
- (b) been approved as a candidate for the degree by the Dean of Engineering and Forestry.

Notes:

1. *The relevance and standard of undergraduate studies and any subsequent professional experience are the ma in criteria for approval.*
2. *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:

- (a) by examination and project report, or
- (b) by examination and thesis, or
- (c) by thesis.

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

### 4. Full-time and Part-time Enrolment

- (a) Full-time study:
  - 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) Part-time study:
  - 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) A candidate for the Degree of Master of Engineering in Transportation by examination and project shall:
  - (b) 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
  - (c) 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
  - (d) 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:

- (a) 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
- (b) 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
- (c) 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:

- (a) 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

- (b) 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 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.

### 10. Project Reports

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

- (a) 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;
- (b) the candidate shall submit for examination two hard bound copies of the project report to the Director of the Transportation Engineering Programme;
- (c) 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;
- (d) 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 of 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

For full course information, go to [www.canterbury.ac.nz/courses](http://www.canterbury.ac.nz/courses)

### Courses

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

#### Notes:

1. 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.
2. 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.
3. 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:
  - (a) Other relevant courses offered by the University

- of Canterbury at 400-level or greater; or
- (b) Courses offered in the Transportation Engineering programme at the University of Auckland; or
  - (c) Other relevant courses offered at other universities.
4. 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. Requirements of the Degree

Every candidate for the Degree of Master of Engineering Studies shall follow a course of study approved by the Dean of Engineering and Forestry and Director of Postgraduate Studies as laid down in these Regulations, or those consistent with the regulations in the relevant Calendar at the time they began their candidacy. In special circumstances the Dean of Engineering and Forestry may modify specific aspects of the degree regulations for individual candidates.

- (a) The degree of Master of Engineering Studies (MEngSt) is offered by the Departments of Chemical and Process Engineering, Civil and Natural Resources Engineering, Electrical and Computer Engineering, Mathematics and Statistics, and Mechanical Engineering.
- (b) It may be awarded endorsed in the following subjects:
  - i. Civil Engineering
  - ii. Construction Management
  - iii. Earthquake Engineering\*
  - iv. Engineering Mathematics\*

- v. Fire Engineering
- vi. Mechanical Engineering

\*(Subject to UNZ CUAP approval due December 2012.)

### 2. Qualifications Required to Enrol in the Degree

A candidate shall have:

- (a) either
  - 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 Honours in appropriate subjects; or
  - iv. in exceptional circumstances, qualified for the award of an appropriate degree in New Zealand; or
  - v. 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\*

*\*(Subject to UNZ CUAP approval due December 2012)*

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

- (a) courses with a total course weighting of not less than 75 points must be selected from the courses listed in Schedule B of the Master of Engineering regulations; and
- (b) any remaining courses, that ensure that the total course weight is not less than 120 points, may be selected from the list of 400-level courses offered by the Engineering programmes or from postgraduate courses offered outside the Engineering programmes.

### 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 8.0 or more in their programme of study will be eligible to be considered for the award of MEngSt with Distinction.

### 6. Transfer from MEngSt to ME/MEFE/MET

- (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, Master of Engineering in Fire Engineering or Master of Engineering in Transportation provided the following conditions have been met:
  - i. The candidate has completed a minimum of 45 points of the course requirements for the MEngSt; and
  - ii. The candidate has achieved an average GPA of 5.0 or more 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, or the schedule to the regulation of the MEFE, or the schedule to the regulations of the MET; 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.

## Schedule to the Regulations for the Degree of Master of Engineering Studies (un-endorsed)

See Regulation 3 above.

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

## Schedule to the Regulations for the Degree of Master of Engineering Studies (endorsed)

For full course information, go to [www.canterbury.ac.nz/courses](http://www.canterbury.ac.nz/courses)

### Civil Engineering

Courses with a total course weighting of not less than 75 points shall be selected from the ENCI course list listed in Schedule B of the Master of Engineering regulations and subject to approval of the Programme Director.

With the approval of the Head of Department, students may credit up to two ENEQ\*, ENFE, ENTR or ENCM courses towards the 75 points.

A maximum of 30 points may come from outside Engineering.

*\*(Subject to UNZ CUAP approval due December 2012.)*

### Construction Management

Courses with a total course weighting of not less than 75 points shall be selected from the Construction Management course list listed in Schedule B of the Master of Engineering regulations and subject to approval of the Programme Director.

*Note: With the approval of the Director of the Construction Management Programme, students may credit up to 30 points offered in the Construction Management Programme at the University of Auckland or other approved University.*

### Earthquake Engineering\*

Courses with a total course weighting of not less than 75 points shall be selected from the Earthquake Engineering course list listed in Schedule B of the Master of Engineering regulations.

*\*(Subject to UNZ CUAP approval due December 2012.)*

### Engineering Mathematics\*

Courses with a total course weighting of not less than 75 points shall be selected from the core Engineering Mathematics courses listed in Schedule B of the Master of Engineering regulations.

*\*(Subject to UNZ CUAP approval due December 2012.)*

### Fire Engineering

Required courses:

- (a) ENFE 601 Structural Fire Engineering
- (b) ENFE 602 Fire Dynamics
- (c) ENFE 603 Fire Safety Systems
- (d) ENFE 604 Fire Design Case Study
- (e) ENFE 610 Advanced Fire Dynamics

### Mechanical Engineering

Courses with a total course weighting of not less than 75 points shall be selected from ENME courses listed in Schedule B of the Master of Engineering Regulations.

## 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:

- (a) qualified for the award of the Degree of Bachelor of Forestry Science with or without Honours; or
- (b) qualified, with appropriate subjects, for the award of a degree other than the Bachelor of Forestry Science; or
- (c) qualified for the award of Postgraduate Diploma in Forestry; or
- (d) been admitted ad eundem 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:

- (a) by examination and report; or
- (b) by examination and thesis; or
- (c) 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 fulltime to study; part-time enrolment requires the approval of

the Academic Board.

#### 4. Courses and Time Requirements

- (a) 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.*

- (b) 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.*

- (c) 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.
- (d) 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:

- (a) 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.
- (b) A candidate shall not present a thesis any part of which has previously been accepted for any degree.
- (c) 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

For full course information, go to [www.canterbury.ac.nz/courses](http://www.canterbury.ac.nz/courses)

- |   |   |
|---|---|
| (1) FORE 606 Forest Transport   | Management  |
| (2) FORE 607 Forest Harvesting  | (11) FORE 643 Modelling for Forestry Management       |
| (3) FORE 609 Advanced Wood-Based Composites   | (12) FORE 650-659 Special Topics                      |
| (4) FORE 610 Research Methods   | (13) FORE 665 Pest Management and Biological Security |
| (5) FORE 612 Advanced Forest Economics  | (14) FORE 670-672 Special Topics                      |
| (6) FORE 613 Marketing  |   |
| (7) FORE 616 Restoration Ecology  |   |
| (8) FORE 624 Plantation Silviculture  |   |
| (9) FORE 641 Plantation Forest Management   |   |
| (10) FORE 642 Advanced Information Technology Applications in Forestry and Natural Resource |   |

*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.*

## The Degree of Master of Human Interface Technology (MHIT)

See also *General Course and Examination Regulations*.

### 1. Qualifications Required to Enrol in the Degree

Every candidate for the degree of Master of Human Interface Technology, before enrolling for the degree, shall have:

- (a) either
  - i. qualified for the award of the Bachelor with Honours Degree in an appropriate field; or
  - ii. qualified for the award of another appropriate degree in New Zealand; or
  - iii. been admitted ad eundem statum as entitled to proceed to the Degree of Master of Human Interface Technology; and
- (b) been approved as a candidate for the degree by the Dean of Engineering and Forestry.

Notes:

1. *Relevance and standard of previous study are the main criteria for approval.*
2. *Candidates will be approved only if appropriate research supervision and resources are available.*
3. *Candidates who do not have an appropriate background may be required to take an approved course or courses prior to approval into the programme.*

### 2. Structure of the Degree

A candidate shall:

- (a) Enrol in and pursue full-time study for one year; and
- (b) Complete a programme of study with a

minimum total weight of 1.0 EFTS. The programme of study consists of a thesis (HITD 690 0.75 EFTS) and one course (HITD 601 0.25 EFTS).

Notes:

1. *The Master of Human Interface Technology is a full-time programme only and cannot be taken part time.*
2. *Normally the programme will be completed in one year of study; Students will need to have prior approval by the Dean of Engineering and Studies to extend their enrolment into the second year.*

### 3. Masters of Human Interface Technology with Distinction

Candidates who obtain a GPA of 8.0 or more in their programme of study will be eligible for the award of MHIT with Distinction.

### 4. Theses

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

### 5. Transfer from Master of Human Interface Technology to PhD

When a candidate has demonstrated high research potential and has the support of the supervisor, Head of the Department and Hit Lab Board of Studies, the candidate may apply to transfer to a

Ph.D. in Human Interface Technology, with such a backdating of research thesis enrolment as may be approved by the Dean of Postgraduate Research.

## 6. Award of a MHIT instead of a PhD

Where a thesis has been presented for the degree of Doctor of Philosophy in Human Interface Technology

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 Human Interface Technology. In such a case, the Dean of Engineering and Forestry may, if required for the award of the degree, exempt the course work component of the degree.

# Postgraduate Certificate in Engineering (PGCertEng)

See also *General Course and Examination Regulations*.

## 1. Certificate Programmes

Every candidate for the Degree of Postgraduate Certificate in Engineering shall follow a course of study approved by the Dean of Engineering and Forestry and Director of Postgraduate Studies as laid down in these Regulations, or those consistent with the regulations in the relevant Calendar at the time they began their candidacy. In special circumstances the Dean of Engineering and Forestry may modify specific aspects of the degree regulations for individual candidates.

- (a) The qualification of Postgraduate Certificate in Engineering (PGCertEng) is offered by the Departments of Chemical and Process Engineering, Civil and Natural Resources Engineering, Electrical and Computer Engineering, Mathematics and Statistics, and Mechanical Engineering.
- (b) It may be awarded endorsed in the following subjects:
  - i. Civil Engineering
  - ii. Construction Management
  - iii. Earthquake Engineering\*
  - iv. Engineering Mathematics\*
  - v. Fire Engineering;
  - vi. Mechanical Engineering
  - vii. Transportation Engineering.

\*(Subject to UNZ CUAP approval due December 2012.)

## 2. Qualifications Required to Enrol in the Certificate

A candidate shall have:

- (a) either
  - 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. The courses must be selected as follows:
  - i. courses with a total course weighting of not less than 45 points must be selected from the courses listed in Schedule B of the Master of Engineering regulations; and
  - ii. any remaining courses may be selected from the list of 400-level courses offered by the Engineering programmes or from postgraduate courses offered outside the Engineering programmes.
- (b) Each programme of study must be approved by the Head of Department or Director of Studies and the Dean of Engineering and Forestry.

*Note: Please refer to the Transportation endorsement for transition regulations for 2013.*

## 4. Full-time and Part-time Enrolment

A candidate may be enrolled, either part-time or full-time, for not more than four 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)

For full course information, go to [www.canterbury.ac.nz/courses](http://www.canterbury.ac.nz/courses)

### Civil Engineering

Courses with a total course weighting of not less than 45 points must be selected from the ENCI courses listed in Schedule B of the ME regulations.

### Construction Management

Courses with a total course weighting of not less than 45 points must be selected from the Construction Management course list listed in Schedule B of the ME regulations.

### Earthquake Engineering\*

Courses with a total course weighting of not less than 45 points must be selected from the Earthquake Engineering course list listed in Schedule B of the ME regulations.

*\*(Subject to UNZ CUAP approval due December 2012.)*

### Engineering Mathematics\*

Courses with a total course weighting of not less than 45 points must be selected from the core Engineering Mathematics course list listed in Schedule B of the ME regulations.

*\*(Subject to UNZ CUAP approval due December 2012.)*

### Fire Engineering

- (a) ENFE 601 Structural Fire Engineering
- (b) ENFE 602 Fire Dynamics

- (c) ENFE 603 Fire Safety systems

### Mechanical Engineering

Courses with a total course weighting of not less than 45 points must be selected from the ENME courses listed in Schedule B of the ME regulations.

### Transportation Engineering

Note for 2013. Due to the transition from 12 to 15 point courses, candidates wishing to enrol in the Transportation endorsement in 2013 must contact the Director of the Transportation Engineering programme regarding the courses required to complete the programme from 2013.

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 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) either
  - 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 status 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.