

DEGREES AND QUALIFICATIONS



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ENTRY REQUIREMENTS

Admission to graduate qualifications offered by the Faculty of Science & Engineering is normally at the discretion of the relevant Graduate Convenor or his/her nominee. Prospective students should contact the Graduate Convenor at their earliest convenience to discuss possible research options and the appropriate papers available to them.

Entry from a Bachelors Degree

This is the normal criterion for admission to graduate qualifications. You must satisfy the Graduate Convenor that you are academically prepared to enrol in the qualification and that an appropriate research topic can be supported by the School.

Entry from Non-Degree Qualifications

Candidates with an NZCE, NZCS or equivalent and at least two years relevant work experience are normally dealt with on the same basis as those with bachelors degrees.

Entry from Other Qualifications

Admission to graduate qualifications is also assessed on a case-by-case basis. Normally, you will be expected to complete a programme of undergraduate papers to ensure that you are well prepared for admission.

Candidates who have already completed 120 points at 500 Level for qualifications such as a Bachelor of Science (Honours) or a Postgraduate Diploma may be able to undertake a one-year Master of Science degree by thesis research.

Entry to Higher Degrees

Admission to higher degrees (Master of Philosophy and Doctor of Philosophy) is at the discretion of the Postgraduate Studies Committee. Prospective candidates should contact the Graduate Convenor at their earliest convenience to discuss their options.

Please refer to the 2015 University of Waikato Calendar online at <http://calendar.waikato.ac.nz> for degree regulations.

MASTER OF ENGINEERING ME

This research-focused degree is designed for engineering graduates who wish to further their knowledge of the innovative research methodologies required in industry, and for professional engineers who wish to up skill in new areas related to their work. Excellence in advanced engineering design, research and development skills are core features of the degree. The degree involves following an approved research investigation in either the Faculty of Science & Engineering or the Faculty of Computing & Mathematical Sciences. Candidates are required to complete a total of 120 points at 500 Level over 12 months full-time or the equivalent in part-time study. Entry is via a recognised four-year professional engineering bachelors degree that contains a substantial design project. Potential candidates may be asked to complete a postgraduate certificate or postgraduate diploma before enrolling in an ME.

ME – Year 1 Options			
YEAR 1	OPTION 1 <table border="1"> <tr> <td>500 LEVEL 30 points</td> <td>THESIS 90 points</td> </tr> </table>	500 LEVEL 30 points	THESIS 90 points
	500 LEVEL 30 points	THESIS 90 points	
OPTION 2 <table border="1"> <tr> <td>THESIS 120 points</td> </tr> </table>	THESIS 120 points		
THESIS 120 points			

Papers for the ME Degree

Up to 30 points of the ME can be Level 500 taught papers including papers from other subjects. Please refer to the following pages for Engineering:

» Computer Science	page 71
» Electronics	page 60
» Engineering	page 62
» Materials and Processing	page 63
» Mathematics	page 71
» Physics	page 67

Please refer to the 2015 University of Waikato Calendar online at <http://calendar.waikato.ac.nz> for degree regulations.

MASTER OF SCIENCE MSc

The MSc is a 12-18 month research focused degree, where the mix of research and taught papers are tailored to suit prior learning experiences. It is a degree that is customised to provide excellent career opportunities and a great background for further study.

The papers offered by the University of Waikato towards the Master of Science have been designed to achieve particular outcomes involving mastery of content, acquisition of skills and development of attributes. Learning experiences are incorporated into the programme to bring about these desired outcomes, and assessment is designed to ensure that students have the opportunity to demonstrate their achievement.

An MSc is normally an 18 month duration programme of study building on the specialisation of the undergraduate degree, which combines taught papers (normally 90 points) with a research thesis (normally 90 points). It introduces students to the frontiers of knowledge and trains them in the relevant techniques of the subject. It is at a level demonstrably in advance of undergraduate study, and requires students to engage in scholarship. Excellence in MSc study is rewarded by the level of honours attained.

Please enquire with the Faculty Office about other graduate qualification options.

MSc Structure					
YEAR 1	<table border="1"> <tr> <td>500 LEVEL</td> <td>THESIS</td> </tr> <tr> <td>90 points</td> <td>30 points</td> </tr> </table>	500 LEVEL	THESIS	90 points	30 points
500 LEVEL	THESIS				
90 points	30 points				
YEAR 2	<table border="1"> <tr> <td>THESIS</td> </tr> <tr> <td>60 points</td> </tr> </table>	THESIS	60 points		
THESIS					
60 points					

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MASTER OF SCIENCE (ENVIRONMENTAL SCIENCES)

MSc(EnvSci)

The MSc(EnvSci) is normally a 12-18 month environmental science-focused degree comprising a minimum of 90 points in taught papers at 500 Level and a maximum 90 point thesis, intended for both science and engineering graduates who wish to further their knowledge and research skills in the area of environmental sciences.

A key feature of this degree is the development of scientific and interdisciplinary (cross-faculty) independent research skills, including collection and analysis of data and critical review of the relevant literature: students are required to engage in scholarship.

MSc(EnvSci) students gain relevant high-level subject knowledge, enhanced critical thinking skills, and practical and/or field based research skills relevant to their particular major or research area, but in particular focussed on the environmental sciences. Assessment is designed to ensure that students have the opportunity to demonstrate their achievement.

MSc(EnvSci) Structure			
YEAR 1	<table border="1"> <tr> <td>500 LEVEL 90 points</td> <td>THESIS 30 points</td> </tr> </table>	500 LEVEL 90 points	THESIS 30 points
500 LEVEL 90 points	THESIS 30 points		
YEAR 2	<table border="1"> <tr> <td>THESIS 60 points</td> <td></td> </tr> </table>	THESIS 60 points	
THESIS 60 points			

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MASTER OF SCIENCE (RESEARCH) MSc(Research)

The MSc(Research) is an internationally recognised qualification, valued for its flexibility and general excellence in education and training. It is a degree that is tailored to provide excellent career opportunities and a great background for further study.

The papers offered by the University of Waikato towards the Master of Science (Research) have been designed to achieve particular outcomes involving mastery of content, acquisition of skills and development of attributes. Learning experiences are incorporated into the programme to bring about these desired outcomes, and assessment is designed to ensure that students have the opportunity to demonstrate their achievement.

An MSc(Research) is normally a two-year coherent, advanced programme of study building on the specialisation of the undergraduate degree, which combines taught papers with a research thesis or dissertation.

The degree may be completed on a part-time basis. It introduces students to the frontiers of knowledge and trains them in the relevant techniques of the subject. It is at a level demonstrably in advance of undergraduate study, and requires students to engage in scholarship. Excellence in MSc(Research) study is rewarded by the level of honours attained.

Note(s): A 12 month Masters degree by thesis research may be available to students who have already completed 120 points at 500 Level for qualifications such as a Bachelor of Science (Honours) or a Postgraduate Diploma.

Please enquire with the Faculty Office about other graduate qualification options.

MSc(Research) Structure	
YEAR 1	500 LEVEL 120 points
YEAR 2	THESIS 120 points

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MASTER OF SCIENCE (TECHNOLOGY) MSc(Tech)

The MSc(Tech) is similar to the MSc, but has two important differences. This programme must include the papers ENMP585 and ENMP586 Industrial Technology and Innovation 1 and 2 (30 points), and a thesis that reports the results of an investigation relating to some applied or industrial study.

MSc(Tech) Structure			
YEAR 1	<table border="1"> <tr> <td>500 LEVEL 90 points</td> <td>ENMP585 & ENMP586 30 points</td> </tr> </table>	500 LEVEL 90 points	ENMP585 & ENMP586 30 points
500 LEVEL 90 points	ENMP585 & ENMP586 30 points		
YEAR 2	<table border="1"> <tr> <td>THESIS 120 points</td> </tr> </table>	THESIS 120 points	
THESIS 120 points			

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ENROLMENT PATTERNS FOR MASTERS STUDENTS

All masters students must submit an application to enrol and liaise with the appropriate School to complete a Graduate Planner form before their programme may be approved and their enrolment can be finalised. This is to ensure that you and your supervisor are aware of your final submission date. This form can be obtained from the Faculty Office or a School Office.

Candidates for MSc(Research) and MSc(Tech) degrees are required to complete 240 points at 500 Level toward these degrees. Each full-time masters student will normally enrol in the first year of the masters programme in 120 points worth of taught papers. In the second year of the programme, each student will normally enrol in a 120 point thesis (Subject code: xxxx594).

Candidates for an MSc degree are required to complete 180 points at 500 Level toward these degrees. Each full-time MSc student will normally enrol in the first year of the masters programme in 90 points worth of taught papers and 30 points towards their thesis. In the second year of the programme, each student will normally enrol in the remaining 60 points of their thesis (Subject code: xxxx594).

Full-Time vs Part-Time

A full-time student must complete a masters degree (MSc(Research) and MSc(Tech)) in 24 consecutive months from first enrolment to qualify for the award of honours.

A part-time student is defined as one who is enrolled in papers less than or equal to 90 points. To qualify for honours, part-time students must complete 240 points within four calendar years of first enrolment in the degree. Part-time students will normally enrol in a thesis with the weighting of 60 points over two of the years. Part-time candidates seeking the award of honours should consult with the Faculty Registrar.

For part-time enrolment, the deadline will be the corresponding date in the year in which the enrolment adds up to 24 months full-time (240 points). For example, a 1 August enrolment for 60 points a year will require a July submission four years from first enrolment.

A full-time MSc student must complete in 18 consecutive months from first enrolment to qualify for the award of honours.

A full-time ME student must complete their degree in 12 consecutive months from first enrolment to qualify for the award of honours. Part-time students must complete 120 points within 24 months from the date of first enrolment to qualify for honours. Part-time candidates seeking the award of honours should consult with the Faculty Registrar.

The deadline for submission of a dissertation or thesis for candidates enrolling in a graduate degree in the Faculty of Science & Engineering is 4pm on the last working day of the candidate's minimum period of enrolment for the degree.

Taught vs Thesis Papers

The relevant Graduate Convenor (or nominee) approves the papers taught in graduate qualifications. This ensures the candidate is well-prepared, in terms of skills and knowledge, to undertake the thesis topic proposed. The assessment in taught papers is varied and can be assessed exclusively on coursework, examination, or a mixture of both. Candidates should be certain of their deep interest in the proposed topic, as a thesis is a demanding activity and requires a high level of academic ability, commitment and stamina.

ENROLMENT PATTERNS FOR MASTERS STUDENTS

Extensions for Masters Theses

Guidelines for the Approval of Extensions to the Submission Date of a Masters Thesis

The commencement and submission dates are agreed to by the candidate and the Graduate Convenor through the Graduate Planner when the degree is started.

The circumstances under which an application for an extension to this submission date may be considered by the Associate Dean (Postgraduate) are:

- » Medical or personal problems leading to a period of significant impairment, and
- » Significant and unforeseen equipment failure.

The Associate Dean (Postgraduate) on a case-by-case basis will make decisions on what constitutes a period of significant impairment. Candidates should note that the following do not represent valid grounds for an extension (please note that this list is not exhaustive):

- » Staff leave,
- » Requirements for editorial revision, and
- » Loss of electronically-stored data.

Candidates who feel that they have been unfairly disadvantaged in their interactions with their supervisor or any other persons, should in the first instance discuss this with their supervisor. If a satisfactory resolution cannot be found, candidates may then take their concerns to the relevant Head of School and then to the Associate Dean (Postgraduate). Candidates should note that they are welcome to raise any concerns in confidence with the Associate Dean (Postgraduate) directly at any stage.

Applying for an Extension

Candidates are expected to make a written application to the Faculty Registrar in the first instance. The application should outline the reasons for the extension, must be written by the candidate and include supporting documentation as appropriate, such as a medical statement or a support note from the supervisor. The Faculty Registrar may approach the supervisor and Head of School independently to confirm the student's version of events. Subject to these comments, the application may then be forwarded to the Associate Dean (Postgraduate) for consideration. In making an application for an extension, the obligations of candidates are as outlined below:

- » Candidates must contact their supervisor as soon as they are able once a problem has been identified
- » Candidates must make a formal application as soon as the period of impairment has been identified
- » Applications on the basis of medical or personal problems must be accompanied by a medical certificate or a statement from a counsellor or similar.

Except in exceptional circumstances, the Faculty undertakes to make a decision on any application within 10 working days.

Re-enrolment

Candidates who are awarded an extension of greater than three weeks are required to re-enrol and normally pay the equivalent of two-thesis papers of fees per semester of study.

POSTGRADUATE DIPLOMA PGDip

This qualification enables science graduates to complete a postgraduate qualification in one year without committing themselves to the two years of study required for a masters degree. The candidate's programme of study requires approval of the Academic Board.

PGDip Structure	
YEAR 1	500 LEVEL
	120 points

In summary the requirements are:

- » A total of 120 points at 500 Level from papers in appropriate subjects,
- » 90 points in one subject, and
- » 30 points may be taken from a subject offered by another School or Faculty.

POSTGRADUATE CERTIFICATE PGCert

This qualification is open to graduates with a bachelors degree or similar qualification who wish to further their knowledge of a selected and limited area of applied science.

PGCert Structure	
SEMESTER 1	500 LEVEL
	60 points

In summary the requirements are:

- » 60 points at 500 Level or above in an approved subject.

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GRADUATE DIPLOMA GradDip

The GradDip is a 120 point qualification that extends learning outside of your first degree. It is made up of Level 100, 200 and 300 papers.

Technology Teaching

This specialisation can be taken with a Graduate Diploma in Engineering and is done in conjunction with a Graduate Diploma in Teaching (Secondary).

Please refer to the *Faculty of Education Handbook* for further details.

There are other Graduate Diploma options available within the Faculty of Science & Engineering. Please contact the Faculty Office for further details.

BACHELOR OF SCIENCE (HONOURS) BSc(Hons)

Admission to this degree is by invitation only. Prospective students considering a BSc(Hons) must have already qualified for the award of a University of Waikato BSc or BSc(Tech) or an equivalent degree.

Students interested in undertaking the BSc(Hons) in the Faculty of Science & Engineering must first consult with the relevant Graduate Convenor. The degree requires the completion of 120 points at 500 Level over one year, including a substantial component of research.

BSc(Hons) Structure			
YEAR 1	<table border="1"> <tr> <td style="text-align: center;">500 LEVEL 60 points</td> <td style="text-align: center;">DISSERTATION 60 points</td> </tr> </table>	500 LEVEL 60 points	DISSERTATION 60 points
500 LEVEL 60 points	DISSERTATION 60 points		

HIGHER DEGREES

Master of Philosophy MPhil

The MPhil degree is a pre-eminent research-based degree in which students undertake a programme of approved and supervised research that leads to a thesis. The thesis critically investigates an approved topic of substance and significance, demonstrates expertise in the methods of research and scholarship, displays intellectual independence and makes a substantial original contribution to the field of study, and is of publishable quality.

Doctor of Philosophy PhD

The PhD degree is the highest degree awarded by the University for research that is carried out under the supervision of staff members. The PhD degree is solely a research degree. Candidates are required to make an original contribution to the field of study by empirical investigation, the formulation of theories, or the innovative reinterpretation of known data and established ideas. The research is normally written up as a thesis, and must demonstrate the research process, arguments, findings and conclusions drawn.

Administration of Higher Degrees

The Postgraduate Research Committee (PGRC) oversees the academic requirements and administration of higher degrees. The Postgraduate Studies Office (PGSO) is the central administrative office for all higher degrees. The PGSO provides advice to candidates, liaises with School/Faculty administrators and academic staff, and keeps academic and administrative records for all candidates.

Application and Enrolment

Academic Prerequisites for Higher Degrees

To qualify to enrol in a higher degree all candidates are expected to have a BSc degree with first or upper second-class honours, or an MSc degree with first or upper second-class honours. In special cases where candidates do not meet the academic prerequisites, appropriate research experience may be acceptable.

Initial Enquiries

Initial enquiries can be made to the relevant Graduate Convenor or the Postgraduate Studies Office.

HIGHER DEGREES

Application Process

Enrolment in higher degrees (MPhil and PhD) is a more involved process than that for masters degrees. Please refer to www.waikato.ac.nz/sasd/postgraduate for more detailed information.

Prospective candidates must complete an application to enrol form. The application must also be accompanied by evidence of the following: date of birth, New Zealand citizenship, permanent residency (if applicable), previous qualifications, and academic transcripts. In addition to these, international students must also provide evidence of study permit, English language proficiency, student statement, CV and references.

The application to enrol must also be accompanied by a research proposal. The proposal should contain the following information:

- » A working title,
- » An outline of the topic or research question and the proposed aim(s) or objective(s) of the study,
- » An indication of the theoretical framework,
- » A description of the research methodology,
- » A statement indicating any ethical issues, and
- » A time-line, showing stages of the work, and projected dates for completion of stages.

The application to enrol must be endorsed by the supervisory panel, Head of School or nominee, and Faculty Postgraduate Research Committee representative. Applications to enrol for a higher degree are subject to approval by the Postgraduate Research Committee under delegated authority of the Academic Board.

Enrolment

Candidates may enrol at any time of the year; the enrolment must commence from the first day of any month. When an application to enrol in a higher degree has been approved by the Postgraduate Research Committee, candidates will be sent an enrolment agreement, with information on how to complete enrolment. When the agreement is returned, and payment of fees has been made, the candidate will be enrolled.

Structure of a Higher Degree

Status

Candidates may apply for full-time or part-time enrolment. This status may be changed at any time during the enrolment.

Duration of Study Period

DEGREE	STATUS	MINIMUM	MAXIMUM
Master of Philosophy – MPhil	Full-time	1 year	2 years
	Part-time	2 years	4 years
Doctor of Philosophy – PhD	Full-time	3 years	4 years
	Part-time	4 years	8 years

Candidates must be enrolled for the minimum term of the degree in which they are enrolled, before the thesis can be submitted.

Conditional Enrolment

All PhD candidates will be conditionally enrolled for a period of six months (full-time status) or 12 months (part-time status). In this period, the candidate is expected to develop a full research plan, and obtain any necessary ethical approval. There is no period of conditional enrolment for the MPhil degree.

Confirmed Enrolment

The full research plan must be presented orally in front of a preferably wide audience of academic peers in the discipline or across disciplines and in writing and then approved by the supervisory panel, Graduate Convenor and Faculty Postgraduate Research Committee representative. The plan is then submitted to the Postgraduate Studies Committee for final approval. Once approval is given, the candidate's enrolment is confirmed.

Progress Reports

Progress reports are an integral part of enrolment in a higher degree. The Postgraduate Research Committee may terminate a candidate's enrolment if progress reports are not submitted in a timely manner, or if progress is continually recorded as unsatisfactory.

PhD and MPhil candidates must submit progress reports six-monthly from the date of confirmed enrolment. Progress reports require candidates to report on progress made in the previous six months, and to report on work that is to be achieved in the next six months. Reports must be endorsed by the supervisory panel, Head of School, and Faculty Postgraduate Research Committee representative. Copies of progress reports are sent to candidates. PhD candidates are encouraged to discuss progress reports with their supervisory panel first, before submission.

Changes to Conditions of Enrolment

Candidates wishing to change their conditions of enrolment should seek advice from the Postgraduate Studies Office. Changes to conditions of enrolment include: topic change, status change (full-time/part-time), supervisory panel change, school/faculty change, suspension of enrolment, and extension of enrolment. Candidates must complete a *Change of Conditions Form*, which must be endorsed by the supervisory panel, Graduate Convenor and Faculty Postgraduate Studies Committee representative. Any application for changes to conditions of enrolment must be approved by the Postgraduate Research Committee.

Examination

The Postgraduate Research Committee approves nominated examiners to examine the thesis; the examiners must be external to the University and must not be directly associated with the candidate or the candidate's research. An oral examination is also part of the examination process for the PhD degree. Oral examinations are not usually held for the MPhil degree. The oral examination gives the candidate an opportunity to further demonstrate their knowledge in the field of study, and is also an opportunity for the candidate to explain or justify aspects of the thesis that require clarification.

It is expected that the thesis will be under examination for three months from the time of submission of the thesis. The Postgraduate Studies Committee, after considering the examiners' recommendations, will make the final decision on awarding the degree.

Note(s): This is an attempt to summarise processes related to Higher Degrees enrolment. You can find more information and a link to the **Higher Degrees Handbook** on the Postgraduate Studies website www.waikato.ac.nz/sasd/postgraduate