MR-PHILENG Master of Philosophy - Engineering

Year and Campus:	2012 - Parkville
CRICOS Code:	061951C
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Research Higher Degree
Duration & Credit Points:	Students are expected to complete this research in 1.50 years full time, or equivalent part time. Credit Points: 150
Coordinator:	..
Contact:	Melbourne School of Engineering Ground Floor, Old Engineering (Building 173) Current Students: Email**:13MELB@unimelb.edu.au (mailto:13MELB@unimelb.edu.au)** Phone: 13 MELB (13 6352) +61 3 9035 5511 Prospective Students: Email: **eng-info@unimelb.edu.au (mailto:eng-info@unimelb.edu.au)** Phone: + 61 3 8344 6944 **http://www.gradresearch.unimelb.edu.au/ (http://www.gradresearch.unimelb.edu.au/)**
Course Overview:	The MPhil is an internationally recognised masters (by research) degree. It is designed for students to develop advanced skills in carrying out independent and sustained research. The thesis should demonstrate a critical application of specialist knowledge and make an independent contribution to existing scholarship in the area of research. The normal length of an MPhil thesis is 30,000-40,000 words, exclusive of words in tables, maps bibliographies and appendices. Footnotes are included as part of the word limit.
Objectives:	On completion of the course students should be able to: # demonstrate advanced learning in research skills and mastery of appropriate techniques, such as the use of archival or primary evidence, analysis of data, judgment of conflicting evidence etc; # demonstrate specialist knowledge in the area of their research; # present the results of their research in publishable quality or work towards incorporating their findings in further research; # gain access to certain types of employment through this specialist qualification; # demonstrate an understanding of, and commitment to, research ethics or code of practice.
Course Structure & Available Subjects:	All candidates for the MPhil will be examined on the basis of their thesis. A candidate will have appropriately experienced supervisor/s and an Advisory Committee who in consultation with the candidate, arranges a course of supervised research designed to suit the individual requirements and interests of the candidate. A candidate may be required to supplement their research program by attendance at, or enrolment in, additional subjects if considered necessary by the supervisor(s).
Subject Options:	**Electrical and Electronic Engineering Master of Philosophy students** All students are required to complete a minimum of two subjects and a maximum of four. A minimum of two subjects must be chosen from the core subjects detailed below. If a student does not have sufficient background in the core subjects they may be required by the supervisory panel to take preliminary undergraduate subjects. Undergraduate preliminary subjects will not count towards the postgraduate level coursework requirement. Subjects from other departments may be selected in consultation with the supervisor and the department, and are subject to the written approval of the Head of Department.

Subject	Study Period Commencement:	Credit Points:
ELEN90017 Advanced Studies 1 (Electrical)	Semester 1	12.50
ELEN90018 Advanced Studies 2 (Electrical)	Semester 2	12.50
ELEN90022 Quantum Opto-electronics	Not offered 2012	12.50
ELEN90023 Lightwave Devices and Systems	Not offered 2012	12.50
ELEN90024 Wireless Systems	Not offered 2012	12.50
ELEN90025 Communication Network Standards/Protocol	Not offered 2012	12.50
ELEN90026 Introduction to Optimisation	Not offered 2012	12.50
ELEN90027 Linear Systems Theory	Semester 1	12.50
ELEN90028 Nonlinear Systems Theory	Not offered 2012	12.50
ELEN90029 Statistical Signal Processing	Not offered 2012	12.50
ELEN90030 Information Theory	Not offered 2012	12.50
ELEN90031 Advanced Topics in Communications	Semester 2	12.50
ELEN90032 Advanced Topics in Signals and Systems	Not offered 2012	12.50
ELEN90033 Advanced Topics in Photonics	Semester 1	12.50
BMEN90004 Advanced Neural Information Processing	Semester 1	12.50

Mechanical Engineering Master of Philosophy students

All research students are required to complete a minimum of two subjects. Undergraduate and Masters by coursework subjects will not count towards the research higher degree student coursework requirement. Subjects from other departments may be selected in consultation with the supervisor and the department and are subject to the written approval of the Head of Department.

Subject	Study Period Commencement:	Credit Points:
ENGR90023 Adv Topics in Sensors & Signal Analysis	Not offered 2012	12.50
ENGR90019 Adv Topics in Fluid Mechanics	Semester 2	12.50

Entry Requirements:

MPhil applicants will be assessed using the criteria described below. The measures include an assessment of a candidate's knowledge of the discipline and evidence of their ability to complete a rigorous research project. Applicants are required to meet the minimum standards described for each of the 6 measures.

In exceptional circumstances, the RHD Committee may consider for admission a person who does not have qualifications equivalent to a four-year honours degree, if it is satisfied that the person's experience in research and the results of that experience are so outstanding that the person is likely to have the ability to pursue the course successfully. In such cases, or where other minimum standards as specified below are not all met, the department may present an evidence-based case for admittance to the Chair Research Higher Degrees Committee.

Normally, the evidence of research equivalence would take the form of a research publication record and/or additional significant research experience that would be equivalent to a fourth year. In the case of a three-year honours degree from the United Kingdom the sponsoring Department may also provide evidence about the quality of the institution and the quality of the degree, compared with a four-year honours degree.

Criteria for assessing applicants eligibility for MPhil candidature

	1. *Minimum qualifications* Applicants are normally required to have completed at least a four-year honours degree at H2A standard from an Australian university, or a qualification or combination of qualifications considered by the RHD Committee to be equivalent. 2. *Minimum level of academic achievement* Applicants should have achieved an overall H1 (80-100%) or H2A (75-79%) grade in the relevant honours or Masters degree. Applicants who have completed certain professional degrees such as MBBS, BVSc, LLB, JD, BPhysio, BProp&Const, BUrbPl, BArch and BLArch will be assessed individually. 3. *Relevance of the Degree* The completed degree must be in an area that is relevant to the intended MPhil, including sufficient specialisation such that the applicant will have already developed an understanding and appreciation of a body of knowledge relevant to the intended MPhil. Professional experience in the area of the intended MPhil may be deemed equivalent. 4. *Evidence of research ability* Applicants are normally required to have completed a research project/component that accounts for at least 25% of their year's work at 4 th year or at Masters level. Graduates of certain professional degrees, including MBBS, BVSc, LLB, JD, BPhysio, BEng, BProp&Const, BUrbPl, BArch and BLArch are deemed to have met this requirement. In the absence of the final year research component, other evidence may be provided as to a student's ability to undertake research. 5. *Currency of applicant's knowledge of the discipline* The applicant's degree/s and/or professional experience must demonstrate that their knowledge of the discipline in which they plan to undertake their research higher degree is current. It is therefore expected that an applicant will have completed their tertiary studies and/or any relevant professional experience in the 10 years immediately prior to their intended entry to the MPhil. 6. *Assessment of level of suitabiltiy* Based on interview or other verbal communication, an assessment should be made of the level of understanding, motivation and time commitment of the student for the proposed program of study. For example, a full-time student would be expected to devote at least 40 hours a week and a part-time student about half of this.
Core Participation Requirements:	All MPhil candidates are required to complete the equivalent of at least six months full-time (12 months part-time) advanced study and research at the University unless studying at an outside institution approved by the Research Higher Degrees Committee (RHDC). The RHDC will not approve entirely distance supervision or entirely on-line supervision for research higher degree students.Throughout their candidature candidates are expected to attend the University in order to benefit from planning, conducting and writing up their research within a University community and environment.The residency requirement is deemed especially important during the first six months of candidature. During this time the student is expected to interact on a regular basis with the supervisor, the department (including staff and other research students) and the University, so as: to build the skills and knowledge necessary to carry out the proposed research program to acquire an understanding of the standards and requirements for an MPhil awarded by the University to make use of support programs and facilities provided by the Melbourne School of Graduate Research throughout candidature. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability will impact on meeting the requirements of this course are encouraged to discuss this matter with a Faculty Student Adviser and the Disability Liaison Unit.
Graduate Attributes:	Research Masters degrees at the University of Melbourne seek to develop graduates who have a capacity for defining and managing a research project characterised by originality and independence. Their training equips them for more sustained and original work at the doctoral level or for applied research positions in a wide variety of contexts. The University expects its research Masters graduates to have the following qualities and skills: an ability to initiate research projects and to formulate viable research questions; a demonstrated capacity to design, conduct and report independent and original research on a closely-defined project; an ability to manage time to maximise the quality of research; an understanding of the major contours of international research in the research area; a capacity for critical evaluation of relevant scholarly literature; well-developed and flexible problem-solving abilities appropriate to

	the discipline; the ability to analyse research data within a changing disciplinary environment; the capacity to communicate effectively the results of research and scholarship by oral and written communication; an understanding of and facility with scholarly conventions in the discipline area; a profound respect for truth and intellectual integrity, and for the ethics of research and scholarship; a capacity to cooperate with other researchers; an ability to manage information effectively, including the application of computer systems and software where appropriate to the student's field of study.
Links to further information:	http://www.gradresearch.unimelb.edu.au
Notes:	Application Procedure Detailed information for prospective MPhil students regarding the application process, including the application form is available at **http://www.futurestudents.unimelb.edu.au/grad/research (http://www.futurestudents.unimelb.edu.au/grad/research)** . It is important to note that there is a separate application form for local and international students. MPhil applicants should discuss their research interests with a potential supervisor at the department in which they would like to enrol prior to submitting an application. The **Find an Expert (http://www.findanexpert.unimelb.edu.au/)** website may assist you to find an appropriate supervisor. Prospective MPhil candidates should also investigate department websites for information on current research and contact details. Department websites are easily accessed from **faculty homepages (http://www.unimelb.edu.au/az/faculties.html)** . Applications are accepted year-round. Which scholarship can I apply for? Students can find information about graduate research scholarships offered by the University of Melbourne at the **Melbourne Scholarships Office (http://cms.services.unimelb.edu.au/scholarships/pgrad)** . Facilities and Supports: The Melbourne School of Graduate Research makes available a broad range of **Programs & Services (http://www.gradresearch.unimelb.edu.au/programs/)** available to graduate research students.