

# Master of Engineering (Electrical with Business)

<b>Year and Campus:</b>	2014
<b>Coordinator:</b>	Associate Professor Margreta Kuijper Email: <a href="mailto:mkuijper@unimelb.edu.au">mkuijper@unimelb.edu.au</a>
<b>Contact:</b>	<p>Melbourne School of Engineering                      Ground Floor, Old Engineering (Building 173)</p> <p>Current Students:                      Email: <a href="mailto:13MELB@unimelb.edu.au">13MELB@unimelb.edu.au</a> (<a href="mailto:13MELB@unimelb.edu.au">mailto:13MELB@unimelb.edu.au</a>)                      Phone: 13 MELB (13 6352)                      +61 3 9035 5511</p> <p>Prospective Students:                      Visit <b>Master of Engineering (Electrical with Business)</b> (<a href="http://www.eng.unimelb.edu.au/study/graduate/master-eng-electrical-business.html">http://www.eng.unimelb.edu.au/study/graduate/master-eng-electrical-business.html</a>)</p>
<b>Overview:</b>	<p>Electrical engineers with business skills play a key role in the design, implementation and management of systems that exploit electrical phenomena. These include systems for automation, surveillance, energy conversion, power distribution, telecommunications and information processing, on both very large and very small scales. Graduates are sought with strong analytical and engineering management skills who will be able to be employed in a variety of industries in roles ranging from research-and-development to project management and finance.</p>
<b>Learning Outcomes:</b>	<p>To produce graduates equipped with a blend of fundamental electrical engineering and business skills and the ability to apply these to complex, open-ended engineering tasks and problems. Within this specification, students acquire skills in the areas of electronics, control, signal processing, communications and engineering business. Students may choose to undertake advanced study in one or more of these areas.</p>
<b>Structure &amp; Available Subjects:</b>	<p>The Master of Engineering (Electrical with Business) consists of 300 points of study - 275 points core plus 25 points Electrical Engineering Elective subjects as listed below.</p> <p>Advanced standing will be awarded for equivalent subjects taken in prior study to applicants on the following basis:</p> <ul style="list-style-type: none"> <li># a maximum of 100 points for applicants with a 4 year Bachelor of Engineering or equivalent</li> <li># a maximum of 100 points for applicants with a 3 year undergraduate degree. Students entering with a three year bachelor degree must complete at least 200 points of study within the Masters of Engineering. In cases where applicants have completed the equivalent of more than 100 points of core masters subjects, discipline specific electives must be taken to fulfill the 200 minimum masters study requirement.</li> </ul> <p>Note: applicants from the University of Melbourne with:</p> <ul style="list-style-type: none"> <li># An appropriate "Engineering System" major will receive 100 points of advanced standing. Electrical Engineering students who have additionally taken Electronic System Implementation from the Bachelor of Science will receive 100 points of advanced standing and be exempt from Electronic System Implementation as a core subject but will need to take an additional 12.5 points of an Electrical Engineering (strongly recommended) or approved elective.</li> <li># Engineering breadth sequences (including those in the Bachelor of Commerce) will receive advanced standing to a maximum of 100 points.</li> </ul>
<b>Subject Options:</b>	<p>Total 300 points - 275 points core (compulsory) plus 25 points Electrical Engineering elective subjects from the list below. Students must complete all 300 points of subjects, including all core subjects, or have advanced standing or exemption.</p> <p>The core and elective subjects are those listed below. The order of subjects below is one way of progressing through the course - students who meet subject requisites may tailor their individual study plan to take into account advanced standing and their preferred study load. Students plan</p>

their study on-line; however, Melbourne School of Engineering course advisors are available to assist students with individual study plans.

**Suggested first 100 points:**

Suggested study plan for first 100 points:

- # 100 points Core from the list below

**Core (100 points)**

Subject	Study Period Commencement:	Credit Points:
ELEN20005 Foundations of Electrical Networks	January, Semester 2	12.50
MAST20029 Engineering Mathematics	Summer Term, Semester 1, Semester 2	12.50
ENGR90021 Engineering Communication	Semester 1, Semester 2	12.50
COMP20005 Engineering Computation	Semester 1, Semester 2	12.50
ELEN30009 Electrical Network Analysis and Design	Semester 1	12.50
ELEN30010 Digital System Design	Semester 1	12.50
ELEN30011 Electrical Device Modelling	Semester 2	12.50
ELEN30012 Signals and Systems	Semester 2	12.50

**Suggested second 100 points:**

Suggested study plan for the second 100 points:

- # 100 points Core from the list below

**Core (100 points)**

Subject	Study Period Commencement:	Credit Points:
ELEN90056 Electronic Circuit Design	Semester 1	12.50
ELEN90054 Probability and Random Models	Semester 1	12.50
ELEN90055 Control Systems	Semester 1	12.50
ENGM90014 The World of Engineering Management	Semester 1, Semester 2	12.50
ELEN30013 Electronic System Implementation	Semester 2	12.50
ELEN90066 Embedded System Design	Semester 2	12.50
ENGM90006 Engineering Contracts and Procurement	Semester 2	12.50
ENGM90012 Marketing Management for Engineers	Semester 2	12.50

**Suggested third 100 points:**

Suggested study plan for the third 100 points:

- # 75 points Core
- # 25 points Electrical Engineering Electives

**Core (75 points)**

Subject	Study Period Commencement:	Credit Points:
ELEN90067 Electrical Engineering Capstone Project	Year Long, Semester 1	25
ENGM90011 Economic Analysis for Engineers	Semester 1	12.50

ELEN90057 Communication Systems	Semester 2	12.50
ELEN90058 Signal Processing	Semester 2	12.50
ENGM90013 Strategy Execution for Engineers	Not offered 2014	12.50

**Electrical Engineering Electives**

Total 25 points

Subject	Study Period Commencement:	Credit Points:
ELEN90059 Lightwave Systems	Semester 1	12.50
ELEN90060 Power System Analysis	Semester 1	12.50
ELEN90051 Advanced Communication Systems	Semester 1	12.50
ELEN90052 Advanced Signal Processing	Semester 1	12.50
ELEN90061 Communication Networks	Semester 2	12.50
ELEN90062 High Speed Electronics	Semester 2	12.50
ELEN90064 Advanced Control Systems	Semester 2	12.50
ELEN90053 Electronic System Design	Semester 2	12.50
ELEN90070 Electrical Engineering Capstone ProjectA	Semester 1, Semester 2	12.50

NOTE: ELEN90070 Electrical Engineering Capstone Project A is a year-long subject; students commence this subject in Semester 2 and continue in the consecutive semester (Semester 1 in the following year). Upon successful completion of this project, students will receive 25 points credit. Students wishing to undertake this subject, should also complete the lecture component of the subject in Semester 1 in the following year. **Students should seek approval from the course coordinator before enrolling in ELEN90070 Electrical Engineering Capstone Project A.**

<b>Links to further information:</b>	<a href="http://www.eng.unimelb.edu.au/Postgrad/MEng/me_electrical.html">http://www.eng.unimelb.edu.au/Postgrad/MEng/me_electrical.html</a>
<b>Related Course(s):</b>	Master of Engineering