

# Electrical Systems

<b>Year and Campus:</b>	2015																	
<b>Coordinator:</b>	Associate Professor Margreta Kuijper Department of Electrical and Electronic Engineering																	
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<b>Overview:</b>	<p>Completing the Electrical Systems major will enable students to rigorously integrate the mathematics of signals, systems and information with the science of electrical phenomena in the formulation and solution of problems in areas such as telecommunications, monitoring and automation, energy distribution, and digital computing. We aim to develop: scientific understanding of electrical phenomena as a basis for mathematical modelling and abstraction in analysis and design; problem-solving and design skills; the ability to construct simulations and laboratory experiments; and good communication skills. The major opens pathways that lead to accredited professional careers in electrical engineering (through the Masters of Engineering), as well as careers in applied mathematics, applied science, teaching, management and finance.</p>																	
<b>Learning Outcomes:</b>	<p><i>Electrical Systems Major Graduates should demonstrate:</i></p> <p><b>Knowledge base in Electrical Systems</b></p> <ul style="list-style-type: none"> <li># a broad knowledge of the mathematics of signals, systems and information with the science of electrical phenomena in the formulation;</li> <li># capacity of rigorously applying knowledge of mathematics and science of electrical phenomena to solve problems in areas such as telecommunications, monitoring and automation, energy distribution, and digital computing.</li> </ul> <p><b>Scientific Enquiry and Critical Thinking</b></p> <ul style="list-style-type: none"> <li># capacity of scientific understanding of electrical phenomena as a basis for mathematical modelling and abstraction in analysis and design;</li> <li># problem-solving and design skills;</li> <li># ability to construct simulations and laboratory experiments.</li> </ul> <p><b>Communication of Electrical Systems Knowledge</b></p> <ul style="list-style-type: none"> <li># good communication skills whereby the students are able to communicate effectively electrical systems concepts and theories to professional and lay audiences in both written and oral formats.</li> </ul> <p><b>Professional Development and the application of Electrical Systems Knowledge</b></p> <ul style="list-style-type: none"> <li># apply electrical systems principles to develop work and study habits that sharpen readiness for employment and/or further study, including enhancing skills for reflective thinking, the giving and receiving feedback, and for effective collaboration with people from diverse backgrounds and cultures.</li> </ul>																	
<b>Structure &amp; Available Subjects:</b>	Completion of 50 points of study at Level 3.																	
<b>Subject Options:</b>	All four of:																	
	<table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ELEN30011 Electrical Device Modelling</td> <td>Semester 2</td> <td>12.50</td> </tr> <tr> <td>ELEN30009 Electrical Network Analysis and Design</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>ELEN30012 Signals and Systems</td> <td>Semester 2</td> <td>12.50</td> </tr> <tr> <td>ELEN30010 Digital System Design</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table>			Subject	Study Period Commencement:	Credit Points:	ELEN30011 Electrical Device Modelling	Semester 2	12.50	ELEN30009 Electrical Network Analysis and Design	Semester 1	12.50	ELEN30012 Signals and Systems	Semester 2	12.50	ELEN30010 Digital System Design	Semester 1	12.50
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<b>Related Course(s):</b>	Bachelor of Science																	