

**AQF LEVEL**

**AQF LEVEL 8 CRITERIA –  
BACHELOR HONOURS DEGREE**

**PROGRAM LEARNING OUTCOMES**

<b>PURPOSE</b>	The Bachelor (Honours) Degree is a pathway qualification for the practice of engineering in Australia and around the world through the Washington Accord. Graduates will have sufficient technical, professional, practical and research knowledge and skills to practice as an engineer in industry, in other graduate employment, or for further study including research. Majors of study provide specific bodies of knowledge suited to the various disciplines within engineering.	
<b>KNOWLEDGE</b>	Graduates of a Bachelor of Engineering (Honours) degree will have: coherent and advanced knowledge of the underlying principles and concepts core to the profession and in one or more engineering disciplines; design and project management skills; knowledge of research principles and methods.	Graduates of the Bachelor of Engineering (Honours) degree will have a comprehensive, theory-based knowledge and understanding of the underpinning natural and physical sciences; understanding of research principles and methods; project planning and management; and the engineering fundamentals applicable to engineering with understanding of the specialist bodies of knowledge in their chosen discipline(s) of engineering of sufficient depth to gain employment at a professional level.
<b>SKILLS</b>	<p>Graduates of a Bachelor of Engineering (Honours) degree will have:</p> <ul style="list-style-type: none"> <li>• Cognitive skills to review, analyse, consolidate and synthesise knowledge to identify and provide solutions to complex problems with intellectual independence.</li> <li>• Cognitive and technical skills to demonstrate a broad understanding of a body of knowledge and theoretical concepts with advanced understanding in some areas – especially those pertinent to their discipline.</li> <li>• Cognitive skills to exercise critical thinking and judgement in developing new understanding</li> </ul>	<p>Graduates of a Bachelor of Engineering (Honours) degree will have:</p> <ul style="list-style-type: none"> <li>• The cognitive and technical skills to identify interpret and analyse stakeholder needs, establish priorities and the goals, constraints and uncertainties of any system (social, cultural, legislative, environmental, business, technical, etc.), using systems thinking, while recognising ethical implications of professional practice.</li> <li>• The skills to communicate and coordinate proficiently by listening, speaking, reading and writing English for professional practice, working as an effective member or leader of diverse teams, using basic tools and practices of formal project management.</li> <li>• The cognitive and technical skills to design and use research in a project and apply abstraction, mathematics and discipline fundamentals to analysis, design and operation, using appropriate computer software, laboratory equipment and other devices ensuring model applicability, accuracy and limitations.</li> </ul>

<b>APPLICATION OF KNOWLEDGE &amp; SKILLS</b>	<ul style="list-style-type: none"> <li>• Technical skills to design and use research in a project.</li> <li>• Practical skills to be able to build models and prototypes and to test physical systems.</li> <li>• Communication skills to present a clear and coherent exposition of knowledge and ideas to a variety of audiences.</li> </ul>	
	<p>Graduates of a Bachelor of Engineering (Honours) degree will demonstrate the application of knowledge and skills:</p> <ul style="list-style-type: none"> <li>• With initiative and judgement in professional practice and/or scholarship.</li> <li>• To adapt knowledge and skills in diverse contexts.</li> <li>• With responsibility and accountability for own learning and practice and in collaboration with others within broad parameters.</li> <li>• To plan and execute project work and/or a piece of research and scholarship with some independence.</li> </ul>	<p>Graduates of the Bachelor of Engineering (Honours) degree will demonstrate the application of knowledge and skills:</p> <ul style="list-style-type: none"> <li>• To analyse, design and operate, using abstraction, mathematics and discipline fundamentals, appropriate computer software, laboratory equipment and other devices ensuring model applicability, accuracy and limitations.</li> <li>• By adopting problem solving, design and decision-making methodologies to address novel research questions in the discipline, develop components, systems and/or processes to meet specified requirements, including innovative approaches to synthesise alternative solutions, concepts and procedures, while demonstrating information skills and research methods.</li> <li>• By managing own time and processes effectively by prioritising competing demands to achieve personal and team goals, with regular review of personal performance as a primary means of managing continuing professional development.</li> </ul>