Bachelor of Engineering
Key Program: Robotics and Mechatronics

3621 – Bachelor of Engineering
The future presents significant challenges to those responsible for managing the environmental, infrastructure and technological developments. Effective solutions to these challenges will require innovative engineering, applied science and design strategies. At the University of Western Sydney, we prepare students to take on those challenges and succeed.

The UWS Engineering degree is all about the application of knowledge to achieve practical outcomes. It covers all major engineering domains, and you can experience many facets of engineering before deciding your area of specialisation at the end of your first year.

Study Mode
Four years full time, or part-time equivalent. Students are required to complete 12 weeks of Industrial Experience, usually between the third and fourth years of the program.

3621.7 – Bachelor of Engineering: Robotics and Mechatronics
A major in Robotics and Mechatronics is concerned with automation and the design and construction of intelligent mechanical systems. The course includes an extensive hands-on laboratory program and provides skills necessary for the design of smart machines of all types, such as auto cruise control, pilot-less spacecraft, automated factories and medical tele-robotics. You will have access to the UWS robotic assembly system, one of the most advanced of its type and unique as a mechatronic engineering educational facility. With its advanced design incorporating three robots, machine vision and computer control, it represents the leading edge in precision assembly and provides excellent teaching and research opportunities.

Entry via: HSC, TAFE, UWSC, private colleges, prior study, International
CRICOS Code: 041037C
Accreditation: Engineers Australia at Professional Level

A Career in Robotic and Mechatronic Engineering
The UWS Engineering Program gives you professional skills and knowledge in specialisations of great demand. As a Robotic and Mechatronic Engineer, you could work on designing, developing and controlling automated machinery, designing mechanical equipment and systems, and marketing and management. You could work in manufacturing, packaging, materials handling, aerospace and mining. For example, you could be designing manufacturing solutions, processes and equipment, or developing robotic devices to solve important health issues in the areas of diagnosis of body malfunction and the improvement of body movements.

Student Testimonial
Francis entered UWS as a mature age student with a construction background. His passion for engineering knowledge grew exponentially under the excellent academic guidance provided at UWS, and a desire to pursue a career in water engineering unfolded. He currently works as an engineer for a western Sydney council.

“The face to face availability of academic staff at UWS should not be taken for granted. I attended every lecture and tutorial possible over my four years of full-time study. The face to face impartation of knowledge worked for me. I have the academic results to prove it!”
Francis Lane

“Since joining the workforce I have come to appreciate how valuable the skills I learned while studying at UWS actually are. I have found time and again that I am more capable and able to review and resolve the challenges that my professional career throws at me.”
Jonathan Barnes

Engineers’ Salaries

<table>
<thead>
<tr>
<th>Grade</th>
<th>Gross base salary, $pa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 1 – Starting salary</td>
<td>70,287</td>
</tr>
<tr>
<td>Grade 2 – 2 to 3 years of experience</td>
<td>83,736</td>
</tr>
<tr>
<td>Grade 3 – 4 to 10 years of experience</td>
<td>99,843</td>
</tr>
<tr>
<td>Grade 4 – 10 to 15 years of experience</td>
<td>124,061</td>
</tr>
<tr>
<td>Grade 5 – over 15 years of experience</td>
<td>164,641</td>
</tr>
</tbody>
</table>

Source: Engineers Australia – Salaries and Benefits Survey (2012)

For more information please send your enquiry to Beng@uws.edu.au
Bachelor of Engineering
Key Program: Robotics and Mechatronics

Course Structure

Year 1
Session 1 Autumn
» 200237 Mathematics for Engineers 1
» 300027 Engineering Computing
» 300963 Engineering Physics
» 300964 Introduction to Engineering Practice

Session 2 Spring
» 200238 Mathematics for Engineers 2
» 300021 Electrical Fundamentals
» 300463 Fundamentals of Mechanics
» 300965 Engineering Materials

Year 2
Session 3 Autumn
» 300040 Mechanics of Materials
» 300018 Digital Systems 1
» 300035 Kinematics and Kinetics of Machines
» 300005 Circuit Theory

Session 4 Spring
» 300480 Dynamics of Mechanical Systems
» 300735 Automated Manufacturing
» 300044 Microcontrollers and PLCs
» OR 300043 Mobile Robotics
» 300052 Power and Machines

Year 3
Session 5 Autumn
» 300056 Robotics
» 300764 Mechanical Design
» Elective 1 – General Education Unit 1
» Elective 1 – Engineering

Session 6 Spring
» 300044 Microcontrollers and PLCs
» OR 300043 Mobile Robotics
» 300763 Advanced Dynamics
» Elective 2 – Engineering
» 300971 Engineering Project 1

Year 4
Session 7 Autumn
» 300025 Electronics
» 300972 Engineering Project 2
» Elective 3 – Engineering
» 300973 Engineering Thesis 1 – Preliminary Investigations (Honours stream)
» OR
» Elective 2 – General Education Unit (non-Honours stream)

Session 8 Spring
» 300487 Mechatronic Design
» 300075 Instrumentation and Measurement
» Elective 4 – Engineering
» 300974 Engineering Thesis 2 – Detailed Investigations (Honours stream)
» OR
» Elective 3 – General Education Unit (non-Honours stream)

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