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: Mechanical**

Mechanical engineering is concerned with the design of mechanical systems for a wide range of applications including manufacturing, transportation and energy conservation. The course delivers fundamental engineering principles as well as an intensive hands on laboratory program to provide skills necessary for the design of machines – ensuring their functionality, safety and reliability.

- **Entry via:** HSC, TAFE, UWSC, private colleges, prior study, International
- **CRICOS Code:** 041037C
- **Accreditation:** Engineers Australia at Professional Level (Provisional in 2012, Full accreditation in December 2014)

**A Career in Mechanical Engineering**

Mechanical engineering is one of the longest standing of the engineering disciplines. As such, employment prospects are likely to remain strong in the long term. Career opportunities include working in industries such as mining, biomedical applications, building services, energy generation and conservation, manufacturing, transportation and aerospace. You may focus on design and development, process control and management, or service and maintenance.

**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)
Bachelor of Engineering
Key Program: Mechanical

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
- 300762 Fluid Mechanics
- 300035 Kinematics and Kinetics of Machines
- 300282 Industrial Graphics 2

Session 4 Spring
- 300480 Dynamics of Mechanical Systems
- 300735 Automated Manufacturing
- 300760 Thermodynamics and Heat Transfer
- 300761 Advanced Mechanics of Materials

Year 3
Session 5 Autumn
- 300488 Numerical Methods in Engineering
- 300764 Mechanical Design
- Elective 1 – General Education Unit 1
- Elective 1 – Engineering

Session 6 Spring
- 300759 Thermal and Fluid Engineering
- 300763 Advanced Dynamics
- Elective 2 – Engineering
- 300971 Engineering Project 1
- 300741 Industrial Experience (Engineering)

Year 4
Session 7 Autumn
- 300056 Robotics
- 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
- Computer Aided Engineering
- Elective 4 – Engineering
- 300974 Engineering Thesis 2 – Detailed Investigations (Honours stream)
  OR
  Elective 3 – General Education Unit (non-Honours stream)

For more information please send your enquiry to Beng@uws.edu.au