

# BACHELOR OF ENGINEERING SCIENCE (3691)

**Approved Abbreviation:** BEngSc

**Western Sydney University Program Code:** 3691

**AQF Level:** 7

**CRICOS Code:** 074195E

This program applies to students who commenced in 2022 or later.

Students should follow the program structure for the session start date relevant to the year they commenced.

For Commencement Year Spring 2018, please refer to: 3691.5 Bachelor of Engineering Science (<http://handbook.westernsydney.edu.au/hbook/course.aspx?course=3691.5>)

For Commencement Year 2017 to Autumn 2018, please refer to: 3691.4 Bachelor of Engineering Science (<http://handbook.westernsydney.edu.au/hbook/course.aspx?course=3691.4>)

For Commencement Year 2015, please refer to: 3691.2 Bachelor of Engineering Science (<http://handbook.westernsydney.edu.au/hbook/course.aspx?course=3691.2>)

For Commencement Year 2014, please refer to: 3691.1 Bachelor of Engineering Science (<http://handbook.westernsydney.edu.au/hbook/course.aspx?course=3691.1>)

The Bachelor of Engineering Science (BEngSc) is a three-year degree program with common first year structure. Students have the opportunity to focus on a discipline area by selecting a Major in Advanced Manufacturing, Civil, Construction, Electrical, Materials, Mechanical, Robotics & Mechatronics, and Sustainability engineering. The program has been developed with the view of enabling graduates to practice as an engineering technologist in their chosen field. The three-year BEngSc program may be used as a pathway to the four-year Bachelor of Engineering program that meets Engineers Australia professional accreditation requirements; an academic performance criteria will be the eligibility criteria for such a transfer.

This program is taught at the Parramatta City - Hassall Street campus.

## Study Mode

Three years full-time or six years part-time.

## Program Advice

Program advice ([edbe@westernsydney.edu.au](mailto:edbe@westernsydney.edu.au))

Prospective students should visit the following websites for general enquiries about this program.

Enquire about this program (<https://enquiry.westernsydney.edu.au/courseenquiry/>) | Local Admission (<https://www.westernsydney.edu.au/future/>) | International Admission (<https://www.westernsydney.edu.au/international/home/apply/admissions/>) |

## Location

Campus	Attendance	Mode	Advice
Parramatta City Campus	Full Time	Internal	See above
Parramatta City Campus	Part Time	Internal	See above
Penrith Campus	Full Time	Internal	See above
Penrith Campus	Part Time	Internal	See above

Sydney City Campus*	Full Time	Internal	Peter Lendrum ( <a href="https://directory.westernsydney.edu.au/old/srchprocess_handbook.php?a_value=p.lendrum@city.westernsydney.edu.au">https://directory.westernsydney.edu.au/old/srchprocess_handbook.php?a_value=p.lendrum@city.westernsydney.edu.au</a> )
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Surabaya Campus Indonesia	Full Time	Internal	See above
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\* Programs delivered through an agreement with another party

## Accreditation

The program has been designed to meet Engineers Australia professional accreditation requirements – Competency Stage 1 Engineering Technologist and Australian Quality Frameworks (AQF) Level 7.

Engineers Australia accreditation is pending approval for the Advanced Manufacturing, Materials, and Sustainability disciplines. Engineers Australia accreditation for the Surabaya Campus offering will be sought.

Graduates of this program are eligible to apply for full membership of Engineers Australia. They are eligible to apply for Certified Engineering Technologist registration upon successful completion of required engineering practice period specified by Engineers Australia.

## Inherent Requirements

There are inherent requirements for this program that you must meet in order to complete your program and graduate. Make sure you read and understand the requirements for this program online.

Inherent Requirements ([https://www.westernsydney.edu.au/ir/inherent\\_requirements/inherent\\_requirements\\_for\\_engineering\\_courses/](https://www.westernsydney.edu.au/ir/inherent_requirements/inherent_requirements_for_engineering_courses/))

## Work Integrated Learning

Western Sydney University seeks to enhance student learning experiences by enabling students to engage in the culture, expectations and practices of their profession or discipline. This program includes a placement or other community-based unpaid practical experience.

There is a mandatory work component required for completion of this program. Please contact the Program Advisor listed above for information.

International students should also refer to the link below for more information and a link to the Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS).

Work Integrated Learning (WIL) for international students ([https://www.westernsydney.edu.au/currentstudents/current\\_students/services\\_and\\_facilities/international\\_student\\_support/working\\_in\\_australia/work\\_integrated\\_learning/](https://www.westernsydney.edu.au/currentstudents/current_students/services_and_facilities/international_student_support/working_in_australia/work_integrated_learning/))

## Admission

- Recommended studies: Physics and HSC Mathematics.
- Assumed Knowledge: Two subjects of Science, two units of English and Mathematics (not General Mathematics) at Band 4 or higher.

Applications from Australian and New Zealand citizens and holders of permanent resident visas may be made via the Universities Admissions Centre (UAC) or directly through the Western Portal. Use the links below to apply via UAC or Western Sydney University. Applications made directly to Western Sydney do not have an application fee.

<http://www.uac.edu.au/>  
<https://westernsydney.uac.edu.au/ws/>

Applicants who have undertaken studies overseas may have to provide proof of proficiency in English. Local applicants who are applying through the Universities Admissions Centre (UAC) will find details of minimum English proficiency requirements and acceptable proof on the UAC website. Local applicants applying directly to the University should also use the information provided on the UAC website.

International students currently completing an Australian Year 12 in or outside Australia, an International Baccalaureate in Australia or a New Zealand National Certificate of Educational Achievement (NCEA) level 3 must apply via UAC International.

<http://www.uac.edu.au/>

All other International applicants must apply directly to the University via the International Office.

International students applying to the University through the International Office can find details of minimum English proficiency requirements and acceptable proof on their website.

International Office (<http://www.westernsydney.edu.au/international/>)

Overseas qualifications must be deemed by the Australian Education International - National Office of Overseas Skills Recognition (AEI-NOOSR) to be equivalent to Australian qualifications in order to be considered by UAC and Western Sydney University.

## Program Structure Current

This structure applies to students who commenced in 2024 or later. If you commenced prior to 2024 please refer to the relevant Structure tab for details.

Qualification for this award requires the successful completion of 240 credit points, which include the subjects listed in the recommended sequences below.

### Penrith, Parramatta and Sydney City Campuses

**All students undertaking the Bachelor of Engineering Science are required to enrol in MATH 1021 Mathematics for Engineers Preliminary.** Students with advanced mathematical skills (band 6 in Advanced Maths or a good grade in Extension Maths or equivalent) may take a readiness test at the start of semester to determine if they are ready for direct entry to MATH 1016 Mathematics for Engineers 1. This test is a mathematics aptitude test, students with the requisite skills should not need to study for it.

Students who pass the readiness test will have their enrolment transferred to MATH 1016 Mathematics for Engineers 1 by the School.

Students remaining in MATH 1021 Mathematics for Engineers Preliminary will be required to complete MATH 1016 Mathematics for Engineers 1 during second semester and will be encouraged to complete MATH 1019 Mathematics for Engineers 2 during the Summer session.

#### Year 1 Subject List

Subject	Title	Credit Points
ELEC 1006	Engineering Computing	10
ENGR 1011	Engineering Physics	10
ENGR 1024	Introduction to Engineering Practice	10
ENGR 1018	Fundamentals of Mechanics	10
PROC 1008	Introduction to Materials Engineering	10

ELEC 1003	Electrical Fundamentals	10
Select two of the following		20
MATH 1021	Mathematics for Engineers Preliminary	
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
Students at Surabaya Campus Indonesia will select		
MATH 1016	Mathematics for Engineers 1	
MATH 1019	Mathematics for Engineers 2	
<b>Total Credit Points</b>		<b>80</b>

### Year 2 - Year 3

#### Penrith and Parramatta Campuses

Advanced Manufacturing, Testamur Major (T126) (<https://hbook.westernsydney.edu.au/majors-minors/advanced-manufacturing-ug-testamur-major/>)

Civil Engineering, Testamur Major (T131) (<https://hbook.westernsydney.edu.au/majors-minors/civil-engineering-ug-testamur-major/>)

Construction Engineering, Testamur Major (T132) (<https://hbook.westernsydney.edu.au/majors-minors/construction-engineering-ug-testamur-major/>)

Electrical Engineering, Testamur Major (T102) (<https://hbook.westernsydney.edu.au/majors-minors/electrical-engineering-ug-testamur-major/>)

Materials Engineering, Testamur Major (T128) (<https://hbook.westernsydney.edu.au/majors-minors/materials-engineering-ug-testamur-major/>)

Mechanical Engineering, Testamur Major (T103) (<https://hbook.westernsydney.edu.au/majors-minors/mechanical-engineering-ug-testamur-major/>)

Robotics and Mechatronics Engineering, Testamur Major (T104) (<https://hbook.westernsydney.edu.au/majors-minors/robotics-mechatronics-engineering-ug-testamur-major/>)

Sustainability Engineering, Testamur Major (T129) (<https://hbook.westernsydney.edu.au/majors-minors/sustainability-engineering-ug-testamur-major/>)

#### Sydney City Campus

Click here for the recommended sequence at Sydney City Campus ([https://www.westernsydney.edu.au/city/courses/undergraduate/engineering\\_science/?utm\\_source=Handbook](https://www.westernsydney.edu.au/city/courses/undergraduate/engineering_science/?utm_source=Handbook))

Civil Engineering, Testamur Major (T131) (<https://hbook.westernsydney.edu.au/majors-minors/civil-engineering-ug-testamur-major/>)

Electrical Engineering, Testamur Major (T102) (<https://hbook.westernsydney.edu.au/majors-minors/electrical-engineering-ug-testamur-major/>)

Mechanical Engineering, Testamur Major (T103) (<https://hbook.westernsydney.edu.au/majors-minors/mechanical-engineering-ug-testamur-major/>)

### Surabaya Campus Indonesia

Electrical Engineering, Testamur Major (T102) (<https://hbook.westernsydney.edu.au/majors-minors/electrical-engineering-ug-testamur-major/>)

### Academic Program Advisors

- Dr. Dharma Hagare is the Academic Program Advisor for Majors in Civil, Construction and Sustainability Engineering.

Dr. Dharma Hagare (<https://directory.westernsydney.edu.au/search/name/Dharma%20Hagare/>)

- Dr Jeffrey (Ju Jia) Zou is the Academic Program Advisor for Majors in Electrical.

Dr (<https://directory.westernsydney.edu.au/search/profile/2853/>) Jeffrey (Ju Jia) Zou (<https://directory.westernsydney.edu.au/search/profile/11045/>)

- Dr Mariam Darestani is the Academic Program Advisor for Majors in Mechanical, Robotic & Mechatronic, Materials and Advanced Manufacturing.

Dr (<https://directory.westernsydney.edu.au/search/profile/17598/>) Mariam Darestani (<https://directory.westernsydney.edu.au/search/profile/17837/>)

Sustainability Engineering, Testamur Major (T129) (<https://hbook.westernsydney.edu.au/majors-minors/sustainability-engineering-ug-testamur-major/>)

### Sydney City Campus

Click here for the recommended sequence at Sydney City Campus ([https://www.westernsydney.edu.au/city/courses/undergraduate/engineering\\_science/?utm\\_source=Handbook](https://www.westernsydney.edu.au/city/courses/undergraduate/engineering_science/?utm_source=Handbook)).

Civil Engineering, Testamur Major (T131) (<https://hbook.westernsydney.edu.au/majors-minors/civil-engineering-ug-testamur-major/>)

Electrical Engineering, Testamur Major (T102) (<https://hbook.westernsydney.edu.au/majors-minors/electrical-engineering-ug-testamur-major/>)

Mechanical Engineering, Testamur Major (T103) (<https://hbook.westernsydney.edu.au/majors-minors/mechanical-engineering-ug-testamur-major/>)

## Program Structure 2022-2023

### Academic Program Advisors

- Dr. Dharma Hagare is the Academic Program Advisor for Majors in Civil, Construction and Sustainability Engineering.

Dr. Dharma Hagare (<https://directory.westernsydney.edu.au/search/name/Dharma%20Hagare/>)

- Dr Jeffrey (Ju Jia) Zou is the Academic Program Advisor for Majors in Electrical.

Dr (<https://directory.westernsydney.edu.au/search/profile/2853/>) Jeffrey (Ju Jia) Zou (<https://directory.westernsydney.edu.au/search/profile/11045/>)

- Dr Mariam Darestani is the Academic Program Advisor for Majors in Mechanical, Robotic & Mechatronic, Materials and Advanced Manufacturing.

Dr (<https://directory.westernsydney.edu.au/search/profile/17598/>) Mariam Darestani (<https://directory.westernsydney.edu.au/search/profile/17837/>)

## Recommended Sequence

Qualification for this award requires the successful completion of 240 credit points which include the subjects listed in the recommended sequences below.

Students must select one of the following Majors

### Penrith and Parramatta Campuses

Advanced Manufacturing, Testamur Major (T126) (<https://hbook.westernsydney.edu.au/majors-minors/advanced-manufacturing-ug-testamur-major/>)

Civil Engineering, Testamur Major (T131) (<https://hbook.westernsydney.edu.au/majors-minors/civil-engineering-ug-testamur-major/>)

Construction Engineering, Testamur Major (T132) (<https://hbook.westernsydney.edu.au/majors-minors/construction-engineering-ug-testamur-major/>)

Electrical Engineering, Testamur Major (T102) (<https://hbook.westernsydney.edu.au/majors-minors/electrical-engineering-ug-testamur-major/>)

Materials Engineering, Testamur Major (T128) (<https://hbook.westernsydney.edu.au/majors-minors/materials-engineering-ug-testamur-major/>)

Mechanical Engineering, Testamur Major (T103) (<https://hbook.westernsydney.edu.au/majors-minors/mechanical-engineering-ug-testamur-major/>)

Robotics and Mechatronics Engineering, Testamur Major (T104) (<https://hbook.westernsydney.edu.au/majors-minors/robotics-mechatronics-engineering-ug-testamur-major/>)