



3740 Bachelor of Engineering (honours)
New Student Advising Guide
Sydney City Campus Trimester 3 2025

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3740 Bachelor of Engineering (honours)

2025 New Student Advising Guide

This Advising Guide has been specifically created for new students enrolled in a Bachelor of Engineering (Honours) in Trimester 3 in 2025 at Western Sydney University, Sydney City Campus to help them successfully plan out their subjects for 2025.

This guide provides students with details of the Subjects they will need to study to complete their Program. Each key program (Civil, Mechanical, and Electrical) is divided into 3 sections;

1. **Program structure:** subjects divided into categories (e.g. Core, Major and Elective).
2. **Subjects available:** subjects available in Trimester 3, 2025.
3. **Recommended enrolment for Trimester 3, 2025.**

Study load options

Fulltime study:	Students should select 3 subjects per Trimester (International students are required to study a full-time load)
Part-time study:	Students should select 1-2 subjects per Trimester
Accelerated study:	Students should select 4 subjects per Trimester*

Subject prerequisites and assumed knowledge

Students should check the [online handbook](#) entry for more Subject information including prerequisites, subject levels and assumed knowledge.

Transfer Credit

Students who have received Transfer Credit for previous study should make sure they take into account which subjects they have been granted credit for, before selecting their subjects to study at Sydney City Campus. Students with Advanced Standing (or Transfer Credit) who have questions about which subjects to select can also contact Engineering Program Convenors, email engineering@city.westernsydney.edu.au for personalised course advice.

For more assistance you can also make an appointment at Sydney City Campus reception to meet with a Student Adviser or via their online booking system <https://calendly.com/student-services-teams> Alternatively, you can contact them at studentservices@city.westernsydney.edu.au

For electives, students can use the [online handbook](#) to search for other undergraduate subjects available at the Sydney City Campus for each trimester.



Program Structure

Qualification for this award requires the successful completion of 320 credit points (a subject is 10cp) made up of the following Core, Major, Elective and Minor subjects.

Core Subjects (80 credit points)

- MATH 1016 Mathematics for Engineers 1 (see note below)
- ELEC 1006 Engineering Computing
- ENGR 1011 Engineering Physics
- ENGR 1024 Introduction to Engineering Practice
- ENGR 1018 Fundamentals of Mechanics
- PROC 1008 Introduction to Materials Engineering
- ELEC 1003 Electrical Fundamentals
- MATH 1019 Mathematics for Engineers 2

Note: All students undertaking the Bachelor of Engineering (Honours) are required to enrol in **MATH 1021 Mathematics for Engineers Preliminary** and undertake a readiness test at the beginning of their study. The readiness test will be conducted at the beginning of the first Trimester of enrolment and the result will be used to determine whether a student will remain in MATH 1021 Mathematics for Engineers Preliminary or be transferred by the School to MATH 1016 Mathematics for Engineers 1. For students that complete MATH 1021 Mathematics for Engineers Preliminary, this subject will replace an elective subject in the Program.

The following pages show the Program structures for each of the Majors offered at Sydney City Campus.



Civil Engineering Major

Civil Engineering Major subjects (200 credit points)

CIVL 1001 Surveying for Engineers
MECH 2003 Mechanics of Materials
CIVL 2002 Environmental Engineering
CIVL 2003 Fluid Mechanics
CIVL 2007 Introduction to Structural Engineering
CIVL 2012 Soil Mechanics
ENGR 2016 Pavement Materials and Design
CIVL 3011 Hydraulics
CIVL 3014 Structural Analysis
CIVL 4017 Surface Water Hydrology
CIVL 3002 Concrete Structures (UG)
CIVL 3012 Steel Structures
CIVL 3007 Engineering Geomechanics
ENGR 3020 Numerical Methods in Engineering
BLDG 4008 Digital Construction
ENGR 4035 Smart and Liveable Cities
ENGR 4041 Final Year Project 1 (UG Engineering)
ENGR 4042 Final Year Project 2 (UG Engineering)
ENGR 3017 Industrial Experience (Engineering) (zero (0) credit point Subject)*

Elective/ Minor subjects (40 credit points)

Four (4) elective Subjects or Four (4) Minor subjects

Note: Electives must be Level 2 or higher (An exception applies for students completing MATH 1021 Mathematics for Engineers Preliminary. This subject will then count as one of the elective subjects)

* Students are advised to enrol in Industrial Experience (ENGR3017) subject every session (from their third session onwards) until they complete the internship.



Civil subjects on offer in Trimester 3 in 2025

Subjects T3 2025	
MATH 1016	Mathematics for Engineers 1
MATH 1019	Mathematics for Engineers 2
MATH 1021	Mathematics for Engineers Preliminary
CIVL 1001	Surveying for Engineers
ELEC 1006	Engineering Computing
ENGR 1011	Engineering Physics
ENGR 1024	Introduction to Engineering Practice
MECH 2003	Mechanics of Materials
CIVL 2003	Fluid Mechanics
CIVL 2007	Introduction to Structural Engineering
CIVL 2012	Soil Mechanics
CIVL 3002	Concrete Structures (UG)
CIVL 3014	Structural Analysis
CIVL 3018	Hydrogeology
CIVL 4017	Surface Water Hydrology
CIVL 4011	Waste Management
BLDG 4008	Digital Construction
ENGR 4041	Final Year Project 1 (UG Engineering)
ENGR 4042	Final Year Project 2 (UG Engineering)
ENGR 3017	Industrial Experience

The delivery mode is on campus face-to-face unless otherwise stated.



Recommended subjects for New Civil Engineering students in Trimester 3 in 2025

First trimester of study enrolment (in Trimester 3, 2025):

MATH 1021 OR MATH 1016	Mathematics for Engineers Preliminary OR Mathematics for Engineers 1
ENGR 1024	Introduction to Engineering Practice
ENGR 1011	Engineering Physics

If a student wants to accelerate the program, they may enrol in the 4th subject as below:

ELEC 1006	Engineering Computing
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Mechanical Engineering Major

Mechanical Engineering Major subjects (200 credit points)

MECH 2001 Kinematics and Kinetics of Machines
MECH 2003 Mechanics of Materials
CIVL 2003 Fluid Mechanics
ENGR 2035 Modern Digital Design and Development
MECH 3004 Dynamics of Mechanical Systems
ENGR 2001 Automated Manufacturing
MECH 3008 Thermodynamics and Heat Transfer
MECH 3002 Advanced Mechanics of Materials
MECH 3005 Mechanical Design
MECH 3001 Advanced Dynamics
PROC 2003 Materials Selection and Design
MECH 3007 Thermal and Fluid Engineering
MECH 3006 Mechatronic Design
MECH 4001 Computational Fluid Dynamics
MECH 4004 Robotics
MECH 4002 Computer Aided Engineering
ENGR 4041 Final Year Project 1 (UG Engineering)
ENGR 4042 Final Year Project 2 (UG Engineering)
ENGR 3017 Industrial Experience (Engineering) (zero (0) credit point Subject)*

Elective/ Minor subjects (40 credit points)

Four (4) elective Subjects or Four (4) Minor subjects

Note: Electives must be Level 2 or higher (An exception applies for students completing MATH 1021 Mathematics for Engineers Preliminary. This subject will then count as one of the elective subjects)

* Students are advised to enrol in Industrial Experience (ENGR3017) subject every session (from their session 3 onwards) until they complete the internship.



Mechanical subjects on offer in Trimester 3 in 2025

Subjects T3 2025	
MATH1016	Mathematics for Engineers 1
MATH1019	Mathematics for Engineers 2
MATH1021	Mathematics for Engineers Preliminary
ELEC1006	Engineering Computing
ENGR1011	Engineering Physics
ENGR1024	Introduction to Engineering Practice
CIVL2003	Fluid Mechanics
ENGR2024	Design Graphics: Communication for Manufacture
ENGR2025	Design Graphics: Engineering Documentation
MECH2001	Kinematics and Kinetics of Machines
MECH2003	Mechanics of Materials
MECH3001	Advanced Dynamics
MECH3005	Mechanical Design
ENGR4038	Biomedical Electronics
MECH4001	Computational Fluid Dynamics
MECH4004	Robotics
ENGR2035	Modern Digital Design and Development
PROC 2003	Materials Selection and Design
ENGR 4041	Final Year Project 1 (UG Engineering)
ENGR 4042	Final Year Project 2 (UG Engineering)
ENGR 3017	Industrial Experience

The delivery mode is on campus face-to-face unless otherwise stated.



Recommended subjects for New Mechanical Engineering students in Trimester 3 in 2025

First trimester of study enrolment (in Trimester 3, 2025):

MATH 1021 OR MATH 1016	Mathematics for Engineers Preliminary OR Mathematics for Engineers 1
ENGR 1024	Introduction to Engineering Practice
ENGR 1011	Engineering Physics

If a student wants to accelerate the program, they may enrol in the 4th subject as below:

ELEC 1006	Engineering Computing
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Electrical Engineering Major

Electrical Engineering Major subjects (200 credit points)

ELEC 2001 Circuit Theory
ELEC 2004 Electronics
ELEC 2011 Signals and Systems
ELEC 1001 Digital Systems 1
ELEC 2009 Microprocessor Systems
ELEC 2006 Engineering Electromagnetics
ELEC 3011 Power and Machines
ENGR 3006 Control Systems
ELEC 3001 Communication Systems
ELEC 3006 Electrical Machines 1
ELEC 2007 Engineering Visualisation
ELEC 3002 Data Communications
ELEC 3003 Digital Signal Processing
ELEC 3004 Digital Systems 2
ELEC 4002 Power Electronics
ELEC 4009 Instrumentation and Measurement
ENGR 4041 Final Year Project 1 (UG Engineering)
ENGR 4042 Final Year Project 2 (UG Engineering)
ENGR 3017 Industrial Experience (Engineering) (zero credit point Subject)*

Elective/ Minor subjects (40 credit points)

Four (4) elective Subjects or Four (4) Minor subjects

Note: Electives must be Level 2 or higher (An exception applies for students completing MATH 1021 Mathematics for Engineers Preliminary. This subject will then count as one of the elective subjects)

* Students are advised to enrol in Industrial Experience (ENGR3017) subject every session (from their session 3 onwards) until they complete the internship.



Electrical subjects on offer in Trimester 3 in 2025

Subjects T3 2025	
MATH1016	Mathematics for Engineers 1
MATH1019	Mathematics for Engineers 2
MATH1021	Mathematics for Engineers Preliminary
ELEC1006	Engineering Computing
ENGR1011	Engineering Physics
ENGR1024	Introduction to Engineering Practice
ELEC1001	Digital Systems 1
ELEC2001	Circuit Theory
ELEC2004	Electronics
ELEC2007	Engineering Visualisation
ELEC2011	Signals and Systems
ELEC3001	Communication Systems
ELEC3006	Electrical Machines 1
ELEC4002	Power Electronics
ENGR4038	Biomedical Electronics
ENGR4041	Final Year Project 1 (UG Engineering)
ENGR4042	Final Year Project 2 (UG Engineering)
ENGR3017	Industrial Experience

The delivery mode is on campus face-to-face unless otherwise stated.



Recommended subjects for New Electrical Engineering students in Trimester 3 in 2025

First trimester of study enrolment (in Trimester 3, 2025):

MATH 1021 OR MATH 1016	Mathematics for Engineers Preliminary OR Mathematics for Engineers 1
ENGR 1024	Introduction to Engineering Practice
ENGR 1011	Engineering Physics

If a student wants to accelerate the program, they may enrol in the 4th subject as below:

ELEC 1006	Engineering Computing
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