|  |
| --- |
| **Year 1** |
| *Students must complete* ***GENG1000 Engineering Practice 1*** *within their first year (0 points = 1 week module)* |
| Semester 1,2024 | **MATH1722\*\***Mathematics Foundations: Specialist***Prereq: Maths Methods ATAR or MATH1721 – see notes*** | ***CHEM1003****\*\* Intro Chemistry* ***OR*** ***PHYS1030\*\**** *Bridging Physics* ***Prereq: Maths Methods ATAR or MATH1721 or MATH1722 – see notes*** | **GENG1010\*\*** Introduction to Engineering | **CITS1401\*\*** Computational Thinking with Python***Prereq: Math Applications ATAR or MATH1720*** |
| Semester 2,2024 | **MATH1011\*\*** Multivariable Calculus***Prereq: Math Specialist ATAR or MATH1722*** | **ELEC1303**Digital Systems | **ENSC1004**Engineering Materials***Prereq: (Chem ATAR or CHEM1003) &*** ***(Maths Methods ATAR or MATH1721) &*** ***(Phys ATAR or PHYS1030)*** | **ENSC2004\*\***Engineering Mechanics***Prereq: (Phys ATAR or PHYS1030) &*** ***(Math Specialist ATAR or MATH1722)******Coreq: MATH1011******APS: PHYS1001 and MATH1011*** |
| **Year 2** |
| Students must complete **GENG2000 Engineering Practice 2** within their second year (0 points = 1 week module) |
| Semester 1,2025 | **MATH1012\*\*** Mathematical Theory & Methods***Prereq: Math Specialist ATAR or MATH1722*** | **CITS2200** Data Structures & Algorithms***Prereq: CITS1401 &*** ***(Maths Methods ATAR or MATH1721)*** | **ENSC2003\*\*** Eng. Electrical Fundamentals***Prereq: (Phys ATAR or PHYS1030) & MATH1011 Coreq: MATH1012******APS: PHYS1001*** | Broadening |
| Semester 2,2025 | **ELEC2311**Digital System Design***Prereq: ELEC1303*** | **CITS2002**Systems Programming***Prereq: 6pts of programming units***  | **MECH2004**Engineering Dynamics***Prereq: ENSC2004 & MATH1011 & MATH1012*** | **ELEC3020**Embedded Systems***Prereq: GENG2000 &*** ***(CITS1001 or CITS1401 or CITS2005 or CITS2401)*** |
| **Year 3** |
| Students must complete **GENG3000 Engineering Practice** 3 within their third year (0 points = 1 week module) |
| Semester 1,2026 | **AUTO3002**Mechatronics***Prereq: (ELEC3020 or ENSC3020) &*** ***GENG2000*** | **AUTO4507**Robot Manipulators***Prereq: 96 points incl.*** ***(CITS1401 or CITS1000 or CITS2401) & (MECH3001 or ELEC3020)*** | **CITS4402** Computer Vision***Prereq: 96 points incl.*** ***(CITS2401 or CITS14001) & MATH1012*** | **GENG2004** Solid Mechanics***Prereq: ENSC2004 & MATH1011 & MATH1012*** |
| Semester 2,2026 | **GENG3402**Control Engineering***Prereq: MATH1011 & MATH1012*** | **MECH3424**Measurement and Instrumentation ***Prereq: (CITS1401 or CITS2401) & ENSC2004 & MATH1012 & GENG2000*** | **MECH3001**Mechanisms and Machines***Prereq: (CITS1401 or CITS2401) & MECH2004*** | **CITS3011**Intelligent Agents***Prereq: CITS2200*** |
| **Year 4** |
| Students must undertake practical work experience during the course to satisfy **GENG5010 Professional Engineering Portfolio** (0 points) – *see notes below**Students must achieve a WAM of at least 50 in order to progress to the fourth (Honours) year – see BE(Hons) rules* |
| Semester 1,2027 | **GENG4411\*\***Engineering Research Project 1***Prereq: 144 points incl. 24 points Level 3 units in major & GENG3000*** | **ELEC5506**Process Instrumentation and Control***Prereq: 120 pts incl. GENG3402******APS: ENSC2003*** | **AUTO4508**Mobile Robots***Prereq: 96 points incl. (CITS1001 or CITS1401 or CITS2002 or CITS2401)*** | Broadening |
| Semester 2,2027 | **GENG4412\*\***Engineering Research Project 2***Prereq: GENG4411******(taken in semester after GENG4411)*** | **GENG5507\*\***Risk, Reliability & Safety***Prereq: 120pts incl. MATH1011 & MATH1012*** | **GENG5505\*\***Project Management & Engineering Practice***Prereq: 120pts*** | **ELEC3016**Power and Machines***Prereq:*** ***ENSC2003 & MATH1012*** |
| Students must pass all credit bearing and 0-pt units to be eligible to graduate |

**\*\*** Offered in both semesters

The Rules for the BH011 Bachelor of Engineering (Honours) can be [**found here**](https://handbooks.uwa.edu.au/coursedetails?code=BH011#rules)**.**

All units have a value of **six points** unless otherwise stated.

Information about unit availability should be checked at the beginning of each semester and can be found in the [**Handbook**](https://handbooks.uwa.edu.au/).

All students must complete GENG1000, GENG2000 & GENG3000 Engineering Practice Skills modules (0 points = 3 x 1-week modules). Check Handbook for prerequisites.

All students must complete the Professional Engineering Practicum and GENG5010 Professional Eng. Portfolio (0 points). Details are available on the *LMS Organisation EMS Student Experience.*

**A Note about Bridging**

Up to 12 points of bridging can be accommodated in this course. Bridging units must be successfully completed within the first 48 points of study.

• Students who have not achieved a scaled mark of at least 50 in Mathematics Specialist ATAR or equivalent are required to complete MATH1722.

• Students who have not achieved a scaled mark of at least 50 in Physics ATAR or equivalent are required to complete PHYS1030.

• Students who have not achieved a scaled mark of at least 50 in Chemistry ATAR or equivalent are required to complete CHEM1003.

Students who need to bridge in only one subject will have space to include three broadening units in the course.

*Students who bridge outside of the course and then transfer can only seek advanced standing for up two bridging units. You cannot claim advanced standing for MATH1721 Mathematics Foundations: Methods or equivalent.*

**Further Help**

If you need to discuss your study plan further, please contact the [**EMS Student Office**](https://www.uwa.edu.au/students/my-course/study-areas/ems-students)**.**

Recommended units for Broadening slots are given on next page.

**Recommended Broadening Units**

Mechanical Engineering Focus

1. MECH3024 Thermodynamics
2. MECH3002 Manufacturing
3. MECH4426 Dynamics, Vibration, Sound
4. MECH4502 Machine Components

Electrical Engineering Focus

1. ENSC3015 Signals and Systems
2. ELEC4404 Signal Processing
3. ELEC4402 Communication Systems
4. GENG5503 Modern Control Systems

Software Engineering Focus

1. CITS4401 Software Requirements and Design
2. CITS3403 Agile Web Development
3. CITS3007 Secure Coding
4. CITS5501 Software Quality and Testing

Machine Learning Focus

1. CITS3005 Knowledge Representation and Reasoning
2. CITS5508 Machine Learning
3. CITS5017 Deep Learning
4. ARCT3050 Active Matter

Network & AI Engineering Focus

1. ELEC4402 Communication Systems
2. CITS3002 Computer Networks
3. CITS5508 Machine Learning
4. CITS5017 Deep Learning