|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| \*\* Offered in Both Semesters Unit shared between both majors | | | | BSc component of combined degree (minimum 12 units) |
| *Year 1*  *Semester 1*  *2022* | BE Unit | BE Unit | BE Unit | **MATH1011\*\***  Multivariable Calculus  ***Prereq: Math Specialist ATAR or MATH1722*** |
| *Year 1*  *Semester 2*  *2022* | BE Unit | BE Unit | BE Unit | **MATH1012\*\***  Mathematical Theory & Methods  ***Prereq: Math Specialist ATAR or MATH1722*** |
| *Year 2*  *Semester 1*  *2023* | BE Unit | BE Unit | **MATH2021**  Intro to Applied Mathematics  ***Prereq: MATH1011 & MATH1012*** | **MATH2031**  Intro to Pure Mathematics  ***Prereq: MATH1012***  ***Coreq: MATH1011*** |
| *Year 2*  *Semester 2*  *2023* | BE Unit | BE Unit | BE Unit | **STAT2062 (see Note 2)** Fundamentals of Probability with Applications OR BSc ELECTIVE  ***Prereq: MATH1011 & MATH1012*** |
| *Year 3*  *Semester 1*  *2024* | BE Unit | BE Unit | BE Unit | **Maths & Stats Option 1** † |
| *Year 3*  *Semester 2*  *2024* | BE Unit | BE Unit | **BSc ELECTIVE (see Note 1)**  (in place of SCOM1101) | **Maths & Stats Option 2** † |
| *Year 4*  *Semester 1*  *2025* | BE Unit | BE Unit | BE Unit | **Maths & Stats Option 3** † |
| *Year 4*  *Semester 2*  *2025* | BE Unit | BE Unit | BE Unit | **Maths & Stats Option 4** † |
| *Year 5*  *Semester 1*  *2026* | BE Unit | BE Unit | FREE ELECTIVE  (in place of MATH1011) | **BSc ELECTIVE** |
| *Year 5*  *Semester 2*  *2026* | BE Unit | BE Unit | FREE ELECTIVE  (in place of MATH1012) | **BSc ELECTIVE** |

Additionally, students must complete GENG1000, GENG2000 & GENG3000 Engineering Practice Skills (0 pts = 3 x 1week modules) and GENG5010 Professional Eng. Portfolio (0 pts)

# # Maths & Stats Major Option Units: Take units to the value of 24 points from this group:

|  |  |  |  |
| --- | --- | --- | --- |
| MATH3002 (S1)  Network Science  ***Prereq: MATH1012*** | MATH3021 (S1)  Nonlinear Dynamics and Chaos  ***Prereq: MATH2021*** | MATH3022 (S2)  Scientific and Industrial Modelling  ***Prereq: MATH2021*** | MATH3024 (S2)  Complex Systems  ***Prereq: MATH2021*** |
| MATH3031 (S1)  Algebraic Structures and Symmetry  ***Prereq: MATH2031*** | MATH3032 (S2)  Topology and Analysis  ***Prereq: MATH2031*** | MATH3033 (S2)  Geometry  ***Prereq: MATH2031*** | STAT3061 (S1)  Random Processes & Their Applications  ***Prereq: STAT2062*** |
| STAT3062 (S1)  Statistical Science  ***Prereq: STAT2062*** | STAT3063 (S2)  Spatial Statistics and Modelling  ***Prereq: STAT2062*** | STAT3064 (S2)  Statistical Learning  ***Prereq: (STAT2401 or STAT2402) or STAT2062*** |  |

† Students intending to take Honours in Mathematics and Statistics should check that they will have the correct prerequisites for their desired specialisation. Units are offered in the following sub- disciplines:

Applied Mathematics: MATH3021, MATH3022, MATH3024 / Pure Mathematics: MATH3031, MATH3032, MATH3033 / Statistics and Probability: STAT3061, STAT3062, STAT3063, STAT3064

# Cross-credit Arrangements

* **BE(Hons) ALL Majors: MATH1011 and MATH1012** count towards both the BE and BSc component: students must take MATH1011 and MATH1012 and two additional electives or other units required by their course of study.

# Special Note 1

## BE(Hons) ALL majors and BSc Maths & Stats Major:

Students in this course who undertake GENG1010 in satisfaction of the requirements of the Bachelor of Engineering (Honours) degree are not required to complete the unit SCOM1101 to fulfill the requirements of the Maths & Stats major in the Bachelor of Science. In this case, students can replace SCOM1101 with an elective unit or another unit required by their course of study.

# Special Note 2

## BE(Hons) Electrical and Electronic Engineering, Mechanical Engineering and Software Engineering Majors and BSc Maths & Stats Major:

Students in this course who undertake STAT2063 in satisfaction of the requirements of the Bachelor of Engineering (Honours) degree are not required to complete the unit STAT2062 to fulfill the requirements the Maths & Stats major in the Bachelor of Science. In this case, students can replace STAT2062 with an elective unit or another unit required by their course of study.

# 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)