**Commencing Semester 2: Version B (concurrent enrolment in MATH1011 & MATH1012)**

\*\* Offered in Both Semesters

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| *Year 1*  *Semester 2* | **MATH1722**\*\*  Maths Foundations: Specialist  ***Prereq: Math Methods ATAR or MATH1721*** | **ENSC1004**\*\*  Engineering Materials  ***Prereq: (Chem ATAR or CHEM1003) & (Phys ATAR or PHYS1030)*** | **CITS1001\*\***  Software Engineering with Java | **Elective** |
| *Year 2*  *Semester 1* | **MATH1011**\*\*  Multivariable Calculus  ***Prereq: Math Specialist ATAR or MATH1722*** | **MATH1012**\*\*  Mathematical Theory & Methods  ***Prereq: Math Specialist ATAR or MATH1722*** | **CITS2200**  Data Structures & Algorithms  ***Prereq: CITS1001***  ***APS: An additional programming unit*** | **ENSC1003**\*\*  Intro to Professional Engineering |
| *Year 2*  *Semester 2* | **ENSC3020**  Digital Embedded Systems  ***Prereq: CITS1001 or CITS2401*** | **CITS2002**  Systems Programming  ***APS: CITS1001 or CITS1401 or CITS2401*** | **ENSC2003\*\***  Eng. Electrical Fundamentals  ***Prereq: (Phys ATAR or PHYS1030) & MATH1011***  ***Co-req: MATH1012***  ***APS: PHYS1001*** | **ENSC2004\*\***  Engineering Mechanics  ***Prereq: (Physics ATAR or PHYS1030) & MATH1011***  ***APS: PHYS1001*** |
| *Year 3*  *Semester 1* | **ENSC3002**  Materials & Manufacturing  ***Prereq: ENSC1004*** | **ENSC3021**  Circuits and Electronics  ***Prereq: ENSC2003 & MATH1011*** | **#ELECTIVE** | **#ELECTIVE** |
| *Year 3*  *Semester 2* | **ENSC3001**  Mechanisms and Machines  ***Prereq: (CITS1001 or CITS2401), ENSC2004, & MATH1011 APS: PHYS1001*** | **ENSC3016**  Power and Machines  ***Prereq:*** ***ENSC2003 & MATH1012;***  ***APS: PHYS1001*** | **MECH4424**  Measurement and Noise  ***Prereq: (CITS1001 or CITS2401) & ENSC3001***  (ADVANCED UNIT) | **GENG5508**  Robotics  ***Prereq: CITS1001***  (ADVANCED UNIT) |
| *Year 4*  *Semester 1* | **GENG3002**  Mechatronics  ***Prereq: CITS2200, ENSC3001 & ENSC3020*** | **GENG4404**  **Automation & Control**  ***Prereq: (CITS1001 or CITS2401) & ENSC2003***  (ADVANCED UNIT) | **#ELECTIVE** | **#ELECTIVE** |

**#Note:** Students intending to progress into the Master of Professional Engineering (Electrical, Mechanical or Software Engineering) should refer to the Electrical Systems stream, Mechanical Systems stream and Software Systems stream tables overleaf (students take 12 pts of stream units in place of elective units; with the remaining stream units to be taken in the MPE).   
  
Alternatively, electives may be used to complete a minor, noting that any four units taken outside the double major in Automation and Robotics meets broadening requirements.

**VERSION B: For students who commence studies in Semester 2 and who are missing Maths Specialist ATAR and who intend to progress into the MPE (with a concurrent enrolment in MATH1011 & MATH1012)**

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| **Electrical Systems Stream:** *Students intending to progress into the Master of Professional Engineering (Electrical & Electronic) take two out of four units (12 pts):*  ***Note:*** *The remaining units to be taken within the MPE as conversion units.* | |
| ENSC3014 Electronic Materials and Devices (S1)  ***Prereq:*** *ENSC2003, MATH1012 & PHYS1001* | MATH3023 Advanced Mathematics Applications (S2)  ***Prereq****:**MATH1011;* ***Coreq:*** *MATH1012* |
| ENSC3015 Signals & Systems (S2)  ***Prereq:*** *(CITS1001), ENSC2003 & MATH1012* | PHYS1001 Physics for Scientists and Engineers (S1,S2) ***Prereq****:**(Physics ATAR or PHYS1030) & (Math Specialist ATAR or MATH1722)* |

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| **Mechanical Systems Stream:** *Students intending to progress into the Master of Professional Engineering (Mechanical) take two out of four units (12 pts):*  ***Note:*** *The remaining units to be taken within the MPE as conversion units.* | |
| ENSC3003 Fluid Mechanics (S1)  ***Prereq:*** *ENSC2004 & MATH1012* | ENSC3024 Engineering Thermodynamics (S2)  ***Prereq****: CITS1001, ENSC2004, MATH1011 & (PHYS1030 or Physics ATAR);* ***APS:*** *PHYS1001* |
| ENSC3004 Solid Mechanics (S1)  ***Prereq:*** *ENSC2004, MATH1011 & MATH1012* | MATH3023 Advanced Mathematics Applications (S2)  ***Prereq****:**MATH1011;* ***Coreq:*** *MATH1012* |

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| **Software Systems Stream:** *Students intending to progress into the Master of Professional Engineering (Software) take two out of four units (12 pts):*  ***Note:*** *The remaining units to be taken within the MPE as conversion units.* | |
| CITS3001 Algorithms, Agents and Artificial Intelligence (S2) ***Prereq:***  *CITS2200* | CITS3004 Cybersecurity (S2)  ***Prereq****: Completion of 12 pts from: CITS1001, CITS2002, CITS2200 or CITS2401* |
| CITS3002 Computer Networks (S1) ***Prereq:*** *CITS2002* | CITS3403 Agile Web development (S1)  ***Prereq****:**CITS1001 or CITS2002* |

**Students not intending to progress into the Master of Professional Engineering may choose electives to the value of 30 pts in the BAR (and which may be used to complete a minor).**