MONASH University

# Course progression map for commencing students

## E3007 Bachelor of Engineering (Honours) and Bachelor of Science

### Specialisation – Robotics and Mechatronics Engineering

### Major – Computational science; Minor - Mathematics

| | Bachelor of Aerospace Engineering (Honours) | | Bachelor of Science | | |
|---|---|---|---|---|---|
| **YEAR 1** Sem 1 | Common First Year | | FIT1045 Software development 1: Programming foundations | Science elective level 1 | |
| **YEAR 1** Sem 2 | | | MAT1003 Mathematics for algorithms and models | MAT1830 Discrete mathematics for computer science | |
| **YEAR 2** Sem 1 | | | FIT2115 Data structures and algorithms 1 | SCI1000 Science communication to influence change (Can be taken in either semester one or two) | If two foundation units are required then overload is required for ENG1013 Engineering smart systems |
| **YEAR 2** Sem 2 | ENG2005 Advanced engineering mathematics | MTH2051 Introduction to computational mathematics | FIT2102 Programming paradigms | MTH2132 The nature and beauty of mathematics | |
| **YEAR 3** Sem 1 | ECE2071 Systems programming | MMA2001 Design 1 | ECE2131 Electrical circuits | MTH2021 Linear algebra with applications | |
| **YEAR 3** Sem 2 | MMA2004 Dynamics 1 | ECE2072 Digital systems | FIT3234 Data structures and algorithms 2 | MTH3020 Complex analysis and integral transformations | |
| **YEAR 4** Sem1 | TRC3500 Sensor and artificial perception | ECE3073 Computer systems | FIT3235 Theory of computational 1: Models of computation | MTH3140 Real analysis | |
| **YEAR 4** Sem 2 | MMA2005 Modelling and control | MMA2003 Thermofluids | FIT3232 Compiler engineering | Science elective level 2 or 3 | |
| **YEAR 5** Sem 1 | ENG4701 Final year project A | TRC3220 Dynamical systems | ECE4076 Computer vision | TRC4800 Robotics | ENG0001 Continuous Professional Development (0 credit points) |
| **YEAR 5** Sem 2 | ENG4702 Final year project B | TRC4407 Automations design project | ECE3192 Fundamentals of deep learning | Complete one Professional Practice domain unit | |

NOTE: · It is important that you follow the course map unit sequence, as units are designed to build on prior knowledge. Taking units out of sequence can disrupt your progression and cause delays due to semester offerings and enrolment rules. · ECE2072 - If you have completed this unit as a First Year breadth study unit, it will count towards your robotics and mechatronics engineering study. You must still fulfil the First Year engineering breadth study requirement by completing another breadth study unit. · Engineering minors are not available in the Engineering double degree courses. · You are required to complete at least 420 hours of Continuous Professional Development (CPD) in order to graduate. For further information refer to the CPD webpage. · Each unit requires 12 hours of work per week. A full-time study week totals 48 hours. If you are unable to commit 48 hours of study due to external commitments, please speak with a course advisor about options to study less units per semester or take some units in the summer semester. · For enrolment advice, please refer to the Course advisers webpage.

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