4634 Bachelor of Engineering (Honours) and Bachelor of Arts 2015

Mechatronics Engineering

Stage one **48 credit points (36 credit point Engineering and 12 credit points Arts)**

- Course advice is required for enrolment in stage one – enrolment plan depends on the need for foundation units
- Level 2 electives may be undertaken following successful completion of 24 credit points
- Students undertake a common first year and nominate their chosen specialisation through the 'branch selection' process

Core Units (30 credit points) – all students complete:	Foundation units (0 or 6 credit points)
ENG1060 Computing for engineers ENG1091 Mathematics for engineering ENG1001 Engineering design: lighter, faster, stronger ENG1002 Engineering design: cleaner, safer, smarter ENG1003 Engineering mobile apps	*Students who have not completed VCE units 3&4 of Chemistry or Physics and/or Specialist Mathematics (or equivalent) must complete one appropriate foundation unit from:* ENG1070 Foundation chemistry ENG1090 Foundation Mathematics PHS1080 Foundation physics *Students who have not completed Year 12 VCE Specialist Mathematics (or equivalent)* ***must*** *undertake ENG1090 Foundation mathematics.*
Elective units (0 or 6 credit points)	
CHM1011 Chemistry I ENE1621 Environmental engineering ENG1021 Spatial communication in engineering ENG1051 Materials for energy and sustainability ENG1071 Chemistry for engineering ENG1081 Physics for engineering MNE1010 Introduction to mining	CHE2161 Mechanics of fluids ***or*** MEC2404 Mechanics of fluids ECE2041 Telecommunications ECE2072 Digital systems MAE2405 Aircraft performance TRC2001 Introduction to systems engineering Free elective – can be taken from any faculty where prerequisites can be met

Stage One

Sem 1	Engineering core unit	Engineering core unit	Foundation unit or Engineering core unit	Arts unit	
Sem 2	Engineering core unit	Engineering core unit	Engineering core unit or Stage one elective unit	Arts unit	

Stage two **(54 credit points)**

Sem 1	ECE2061 Analogue electronics	ECE2071 Computer organisation and programming	Arts unit	Arts unit	
Sem 2	ENG2092 Advanced engineering maths B	TRC2001 Introduction to systems engineering	Arts unit	Arts unit	Arts unit

Stage three **(54 credit points)**

Sem 1	MEC2402 Engineering design I	TRC2201 Mechanics	Arts unit	Arts unit	
Sem 2	ECE2072 Digital systems	TRC2200 Thermo-fluids and power systems	Arts unit	Arts unit	Arts unit

Stage four **(48 credit points)**

Sem 1	ECE3073 Computer systems	TRC3200 Dynamical systems	TRC3500 Sensors and artificial perception	Arts unit	
Sem 2	ECE3051 Electrical energy systems	TRC3000 Mechatronics project II	TRC3600 Modelling and control	Arts unit	

Stage five **(48 credit points)**

Sem 1	TRC4000 Mechatronics final year project I	TRC4800 Robotics	Engineering elective from Mechatronics elective list below	Arts unit	
Sem 2	TRC3801 Mechatronics and manufacturing	Engineering elective from Mechatronics elective list below	Engineering elective from Mechatronics elective list below	Arts unit	

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Mechatronics engineering

Mechatronics Engineering elective units:	
ECE2041 Telecommunications	ECE4078 Intelligent robotics
ECE4053 Electrical energy – generation and supply	ECE4808 Organic electronics and micro devices
ECE4054 Electrical energy – power converters and motor control	MEC4418 Control systems
	MEC4444 Industrial noise control
ECE4063 Large scale digital design	TRC4900 Real time embedded systems
ECE4074 Advanced computer architecture	TRC4901 Computation intelligence and AI
ECE4076 Computer vision	

Notes:

Overloading	Students will normally expect to complete the course in five years. This is achieved by undertaking one additional unit per semester twice in the later stages of the degree. Overloading is not compulsory, students may choose to complete in 5 ½ years.
Credit points	Unless specified, all units are worth 6 credit points **Bachelor of Engineering** 26 units x 6cp = **Total of 156 credit points** **Bachelor of Arts** 16 units x 6cp = **Total of 96 credit points**
Unit requisites	All pre-requisite and co-requisite requirements must be undertaken in order to be able to enrol into a specific unit
Duration of degree	5 years full-time, 10 years part-time
Time limit	10 years. Students have ten years in which to complete this award from the time they commence first year. Periods of intermission are counted as part of the ten years.
Course advice	www.eng.monash.edu.au/current-students/course-advice.html www.monash.edu/students/courses/arts/
Monash University handbook	Students should follow the course requirements for the year the degree was commenced www.monash.edu.au/pubs/2015handbooks/courses/index-byfaculty-eng.html
Branch Selection	www.eng.monash.edu.au/current-students/firstyear.html

All information correct at publication but may be subject to change – 14 January 2015
Faculty of Engineering, Monash University

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