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

Mechanical Engineering

Stage one: **48 credit points (36 credit points 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, Physics and/or Specialist Mathematics must complete one or two units from:* ENG1070 Foundation chemistry ENG1090 Foundation mathematics ENG1080 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 Fundamentals of materials for 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 **48 credit points (36 credit points Engineering and 12 Credit points Arts)**

Sem 1	Engineering stage one foundation unit or elective unit	Engineering stage one core unit	Engineering stage one core unit	Arts unit	
Sem 2	Engineering stage one core unit	Engineering stage one core unit	Engineering stage one core unit	Arts unit	

Stage two **(54 credit points)**

Sem 1	ENG2091 Advanced engineering mathematics A	MEC2401 Dynamics 1	Arts unit	Arts unit	
Sem 2	MEC2456 Engineering computational analysis	MEC2404 Fluid mechanics I	Arts unit	Arts unit	Arts unit

Stage three **(54 credit points)**

Sem 1	MEC2402 Engineering design I	MEC2403 Mechanics of Materials	Arts unit	Arts unit	
Sem 2	MEC2405 Thermodynamics	MEC2407 Electromechanics	Arts unit	Arts unit	Arts unit

Stage four **(48 credit points)**

Sem 1	MEC3451 Fluid mechanics II	MEC3453 Dynamics II	MEC3454 Thermodynamics and heat transfer	MEC3455 Solid mechanics
Sem 2	MEC3416 Engineering design	MEC3457 Systems and control	MEC3458 Experimental project	MEC3459 Materials selection for engineering design

Stage five **(48 credit points)**

Sem 1	MEC4401 Final year project	MEC4404 Professional practice	Arts unit	Arts unit
Sem 2	MEC4407 engineering design III	Engineering elective – choose from elective list below	Arts unit	Arts unit

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Mechanical engineering

Mechanical Engineering elective units:	
MEC4402 final year project – Thesis (recommended only for students with an aggregate score of at least 70% at the conclusion of third year) MEC4403 Research project (Subject to departmental approval) MEC4416 Momentum, energy & mass transport in engineering systems MEC4417 Refrigeration and air-conditioning MEC4418 Control systems MEC4425 Micro/nano solid and fluid mechanics	MEC4426 Computer-aided design MEC4427 Systems integrity and maintenance MEC4428 Advanced dynamics MEC4444 Industrial noise and its control MEC4446 Composite structures MEC4447 computers in fluids and energy MEC4456 Robotics MEC4459 Wind engineering

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, student 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** **(Total: 252cp)**
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/student/courses/art/course-planning.html
Monash University handbook	Students should follow the course requirements for the year the course was commenced www.monash.edu.au/pubs/2015handbooks/courses/index-byfaculty-eng.html
Branch Selection	www.eng.monash.edu.au/current-students/firstyear.html

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