

# 4636 Bachelor of Engineering (Honours) and Bachelor of Design (Industrial Design) 2015

## Mechanical Engineering

### Stage one

(48 credit points)

- 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

### Stage one:

48 credit points (36 credit point Engineering and 12 credit points Design)

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	<i>Students who have not completed VCE units 3&amp;4 of Chemistry, Physics and/or Specialist Mathematics must complete one or two units from:</i> ENG1070 Foundation chemistry ENG1090 Foundation mathematics ENG1080 Foundation physics
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 <i>or</i> 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)

Sem 1	DWG1201 Drawing 1 and OHS100 Occupational health and safety (0 cp)	DGN1001 Design studio 1	Engineering stage one core unit	Engineering stage one foundation unit <i>or</i> Engineering stage one elective unit
Sem 2	Engineering stage one core unit	Engineering stage one core unit	Engineering stage one core unit	Engineering stage one core unit

### Stage two

(48 credit points)

Sem 1	MEC2401 Dynamics I	MEC2402 engineering design I	MEC2403 Mechanics of materials	Design unit IDE1502
Sem 2	ENG2091 Advanced engineering maths A	MEC2456 Engineering computational analysis	Design unit IDE1112	Design unit IDE1602

### Stage three

(48 credit points)

Sem 1	MEC2404 Fluid mechanics I	Design unit AHT1101	Design unit DIS1103	Design unit IDE2113
Sem 2	MEC2407 Electromechanics	MEC2405 Thermodynamics	Design unit IDE2303	Design unit IDE2114

### Stage four

(54 credit points)

Sem 1	MEC3451 Fluid mechanics	MEC3453 Dynamics II	MEC3454 Thermodynamics	MEC33455 Solid mechanics	Design unit IDE3115
Sem 2	MEC3416 Engineering design II	MEC3457 Systems and control	MEC3458 Experimental project	Design unit TAD2214	

### Stage five

(54 credit points)

Sem 1	MEC4401 Final year project	MEC4404 Professional practice	Mechanical engineering elective from list below	Design unit IDE3814	
Sem 2	MEC3459 Materials selection for engineering	MEC4407 Engineering design III	Mechanical engineering elective from list below	Design unit IDE3116 (12cp)	

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**Mechanical engineering**

**Mechanical 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.	MEC4427 Systems integrity and maintenance
MEC4403 Research project (subject to departmental approval	MEC4428 Advanced dynamics
MEC4416 Momentum, energy & mass transport in engineering systems	MEC4444 Industrial noise and its control
MEC4417 Refrigeration and air-conditioning	MEC4446 composite structures
MEC4418 control systems	MEC4456 Robotics
MEC4425 Micro/nano solid and fluid mechanics	MEC4447 computers in fluids and energy
MEC4426 Computer-aided design	MEC4459 Wind engineering

**Notes:**

<b>Overloading</b>	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.
<b>Credit points</b>	Unless specified, all units are worth 6 credit points <b>Bachelor of Engineering</b> 27 units x 6cp = <b>Total of 162 credit points</b> <b>Bachelor of Design (Industrial Design)</b> 15 units x 6cp = <b>Total of 90 credit points (Total 252cp)</b>
<b>Unit requisites</b>	All pre-requisite and co-requisite requirements must be undertaken in order to be able to enrol into a specific unit
<b>Duration of degree</b>	5 years full-time, 10 years part-time
<b>Time limit</b>	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.
<b>Course advice</b>	<a href="http://www.eng.monash.edu.au/current-students/course-advice.html">www.eng.monash.edu.au/current-students/course-advice.html</a> <a href="http://www.artdes.monash.edu.au/students/#!/students/advice.php">www.artdes.monash.edu.au/students/#!/students/advice.php</a>
<b>Monash University handbook</b>	Students should follow the course structure for the year the course was commenced <a href="http://monash.edu/pubs/2015handbooks/courses/index-byfaculty-eng.html">http://monash.edu/pubs/2015handbooks/courses/index-byfaculty-eng.html</a>

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