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

Materials Engineering

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

- 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 unit 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 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 **(48 credit points)**

Sem 1	Engineering stage one core unit	Engineering stage one core unit	Engineering stage one foundation unit or elective 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 maths A	MTE2541 Crystal structures, thermodynamics and phase equilibria	Arts unit	Arts unit	
Sem 2	MTE2542 Microstructural development	MTE2545 Polymers and ceramics I	Arts unit	Arts unit	Arts unit

Stage three **(54 credit points)**

Sem 1	MTE2546 Mechanics of materials	MTE2544 Functional materials	Arts unit	Arts unit	Arts unit
Sem 2	MTE2547 Structure-property relationships in materials	MTE2548 Biomaterials I	Arts unit	Arts unit	

Stage four **(48 credit points)**

Sem 1	MTE3541 Materials durability	MTE3542 Microstructural design in structural materials	MTE3543 Microstructure to applications: the mechanics of materials	MTE3544 Management and practice in materials eng
Sem 2	MTE3545 Functional materials and devices	MTE3546 Polymers and ceramics II	MTE3547 Materials characterisation and modelling	Arts unit

Stage five **(48 credit points)**

Sem 1	MTE4525 Project I	MTE4571 Materials engineering design and practice	MTE4572 Polymer and composite processing and engineering	Arts unit
Sem 2	MTE4526 Project II	MTE4573 Processing and engineering of metals and ceramics	Arts unit	Arts unit

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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** **(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/students/courses/arts/course-planning.html
Monash University handbook	Students should follow the course requirements for the year the course was commenced http://monash.edu/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
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