4632 Bachelor of Engineering (Honours) 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
-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, 6 or 12 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 PHS1080 Foundation physics
Elective units (6, 12 or 18 credit points)	
CHM1011 Chemistry I (Clayton) or CHM1051 Chemistry 1 advanced (Malaysia) 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 two **(48 credit points)**

Sem 1	MEC2401 Dynamics 1	MEC2402 Engineering design I **Co-requisites** MEC2403 or MAE2401 or TRC2201	MEC2403 Mechanics of Materials	MEC2405 Thermodynamics
Sem 2	ENG2091 Advanced engineering maths A **Prerequisites** ENG1091	MEC2404 Fluid mechanics 1	MEC2407 Electromechanics	MEC2456 Engineering computational analysis **Prerequisites** ENG1060

Stage three **(48 credit points)**

Sem 1	MEC3451 Fluid mechanics II **Prerequisites** Must have passed (ENG2091 and MEC2404) OR have passed (MEC2430 or MEC2404) AND passed 2 units in (MAT2901, MAT2902, MTH2010, MTH2021, MTH2032)	MEC3453 Dynamics II **Prerequisites** MEC2401, ENG2091 or MTH2021 or MTH2032	MEC3454 Thermodynamics and heat transfer **Prerequisites** MEC2404 and MEC2405 or MTH2021 or MTH2032	MEC3455 Solid mechanics **Prerequisites** MEC2402 and MEC2403
Sem 2	MEC3416 Engineering design II **Prerequisites** MEC2402 and MEC2403	MEC3457 Systems and control **Prerequisites** (ENG2091 and MEC2407 and MEC2401) or (MEC2401 and MTH2021 or MEC2401 and MTH2032)	MEC3458 Experimental project **Prerequisites** Must have passed 96 credit points from engineering or science	MEC3459 Materials selection for engineering design **Prerequisites** None

Stage four **(48 credit points)**

Sem 1	MEC4401 Final year project **Prerequisites** Must have passed 36 credit points at level three in the engineering component of the course.	MEC4404 Professional practice **Prerequisites** Must have passed 120 credit points	Engineering elective – choose from elective list below	Engineering elective – choose from elective list below
Sem 2	MEC4407 engineering design III **Prerequisites** MEC2402	6 –point inter-faculty (commerce) elective	Engineering elective – choose from elective list below	Engineering elective – choose from elective list below

Mechanical Engineering elective units:

MEC4417 Refrigeration and air-conditioning**
MEC4418 Control systems
MEC4425 Micro/nano solid and fluid mechanics
MEC4426 Computer-aided design
MEC4428 Advanced dynamics
MEC4444 Industrial noise and its control
MEC4446 Composite structures
MEC4447 computers in fluids and energy
MEC4456 Robotics
MEC4459 Wind engineering
TRC4800 Robotics
MEC4801 Non-destructive testing and inspection**
MEC4802 Sustainable engineering and design with nanomaterials**
MEC4803 Internal combustion engines**
MEC4402 Final year project II
** Malaysia only

Inter-faculty (commerce) electives

BFC2000 Financial institutions and markets
BFC2140 Corporate finance
BTC1110 Business law
ECC1100 Principles of macroeconomics
ECC2800 Prosperity, poverty and sustainability in a globalised world
MGC1010 Managing people and organisations
MGC1020 Organisations: Contexts and strategies
MGC2230 Organisational behaviours
MGX3100 Management ethics and corporate governance
MGX3991 Leadership principles and practices
MKC1200 Principles of marketing
BTW1042 Malaysian business law**
ECW1102 Introductory macroeconomics**
MGW1010 Introduction to management**
MGW2230 Organisational behaviour**
MKW1120 Marketing theory and practice**

Notes:

Credit points	Unless specified, all units are worth 6 credit points **Bachelor of Engineering** 32 units x 6cp = **Total of 192 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	4 years full-time, 8 years part-time
Time limit	8 years. Students have eight years in which to complete this award from the time they commence first year. Periods of intermission are counted as part of the eight years.
Course advice	www.eng.monash.edu.au/current-students/course-advice.html
Monash University handbook	Students should follow the course structure 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/branch-selection.html

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