PROGRAM STUDI TEKNIK MESIN S1 INTERNASIONAL

KODE	SUBJECT	SKS
	1st Semester	
ENME611001	Introduction to Mechanical Engineering	2
UIGE610002	Academic Writing	3
ENGE610001	Calculus 1	3
ENGE610005	Basic Physics 1 (Mechanic & Heat)	3
ENGE610006	Laboratory Experiment for Basic Physics 1	1
ENME611002	Engineering Drawing	2
ENGE610010	Statistics and Probabilistic	2
ENGE610004	Linear Algebra	4
	Subtotal	**20**
	2nd Semester	
UIGE61000X	Religion	2
ENGE610002	Calculus 2	3
ENGE610007	Basic Physics 2 (Electrical, Magnet, Wave, and Optic)	3
ENGE610008	Laboratory Experiment for Basic Physics 2 (Electrical, Magnet, Wave, and Optic)	1
UIGE6000XX	Sport/Art	1
ENME612003	Mechanical Drawing	2
ENME612004	Engineering Statics	2
ENME612005	Engineering Material	2
ENGE610009	Basic chemistry	2
	Subtotal	**18**
	3rd Semester	
ENME610013	Engineering Mathematics	4
ENME613006	Mechanical Modelling and Visualization	2
ENME613007	Strength of Materials	2
ENME614024	Life Science for Engineer	2
ENME613008	Basic Thermodynamics	4
ENME613010	Material Selection and Manuf. Process	4
ENME613015	Measurement and Metrology	2
	Subtotal	**20**
	4th Semester	
ENME610009	Kinematics and Dynamics	4
ENME610007	Laboratory Experiment of Production Process	1
ENME614011	Basic Fluid Mechanics	4
ENME614012	Mechanical Design	4
	Health, Safety and Enviroment	2
ENME610016	Numerical Method	2
ENME610008	Laboratory Experiment for Measurement and Metrology	1
	Subtotal	**18**
	5th Semester	
UIGE610002	Integrated Character Building Subject B	6
ENME615014	Mechanical Vibration	2
ENME615017	Heat and Mass Transfer	4
ENME615018	Fluid System	3
ENME615019	Control System	4

ENME610001	Design Assignment 1	2
	Subtotal	**21**
	6th Semester	
UIGE610001	Integrated Character Building Subject A	6
ENME616020	Maintenence and Condition Monitoring	3
ENME616021	Energy Conversion and Conservation	2
ENME616022	Mechatronics	4
ENME610002	Design Assignment 2	2
ENME616023	Electrical Power Engineering	2
	Subtotal	**19**
	7th Semester	
ENME610009	Laboratory Experiment for Energy Conversion and Conservation	1
ENME610010	Laboratory Experiment for Electrical Power Engineering	1
ENME610003	On the Job Training	2
ENME610004	Seminar	1
	Elective # 1	4
	Elective # 2	4
	Subtotal	**13**
	8th Semester	
ENME610005	Final Project	5
ENME610006	Industrial Seminar	2
	Elective # 3	4
	Elective # 4	4
	Subtotal	**15**

ELECTIVE COURSES

KODE	**ELECTIVES FOR 7th SEMESTER**	**SKS**
	SUBJECT	
ENME803105	Internal Combustion Engine	4
ENME803106	Applied Flow Measurement and Visualization	4
ENME803107	CFD Application	4
ENME803108	Refrigeration Engineering	4
ENME803104	Thermal Power Generation	4
ENME803115	Clean Room	4
ENME803124	Energy Audit	4
ENME803134	Enclosure Fire Dynamics and Modelling	4
ENME803143	Mechanical Failure	4
ENME803145	Composite Product Development	4
ENME803147	Toy Production Design	4
ENME803153	Machine Vision System	4
ENME803154	Quality and Production Management System	4
ENME803161	Micro-machining	4
ENME803167	Modern Vehicle Technology	4
ENME803195	Oil and Gas Drilling Equipment	4

ENME803196	Jet and Rocket Propulsion	4
ENME803174	Risk Management	4

KODE	ELECTIVES FOR 8th SEMESTER	SKS
	SUBJECT	
ENME804110	Combustion Engineering	4
ENME804109	Heat and Mass Transfer Engineering	4
ENME804111	Aerodynamics Engineering	4
ENME801113	Ventilation and Air Conditioning System	4
ENME804118	Mechanical system for Building	4
ENME802103	Energy System Optimization	4
ENME804138	Evaluation and Maintenance of Fire Protection System	4
ENME804148	Design For Manufacture and Assembly	4
ENME804149	Noise and Vibration	4
ENME804155	CAD/CAM	4
ENME804156	Manufacturing Performance Assesment	4
ENME802152	Automation and Robotics	4
ENME804168	Railway Vehicle Engineering	4
ENME804197	Handling and Construction Equipment	4
ENME804198	Aircraft Stability and Control	4
ENME804190	Advanced Welding Engineering	4

Curriculum Design for Queensland University of Technology (QUT) 2+2

For Mechanical Engineering, the advanced standing is as follows (based on 2009 mechanical course structure at UI):

UI Units	QUT Units
MCS110802l + ENG100808l + ENG100807l + MCS210803l	ENB100, ENB200, ENB150
ENG100801l + ENG100804l + ENG200801l + MCS210810l	MAB126, MAB127, MAB233
ENG100805l+ MCS120801l	ENB130, ENB110
ENG200802l + EES21089l + EES210914l	ENB120
MCS220801l	ENB211
MCS120801l + MCS220802l + MCS320801l	ENB231, ENB331
MCS220804l	ENB221
MCS210802l	ENB222
MCS210803l + MCS220803l	ENB212, ENB215

Provisional Program at QUT

February Entry

Semester 1, Year 1		Semester 2, Year 1	
Code	Course Title	Code	Course Title
ENB311	Stress Analysis	ENB205	Electrical and Computer Engineering
ENB312	Dynamics of Machinery	ENB321	Fluids Dynamics
ENB316	Design of Machine Elements		Minor/Second Major 4
	Minor/Second Major 1		Minor/Second Major 2

Semester 1, Year 2		Semester 2, Year 2	
Code	Course Title	Code	Course Title
ENB421	Thermodynamics 2	ENB317	Design and Maintenance of Machinery
BEB801	Project 1	ENB313	Automatic Control
SEB400	Foundations of Research	BEB802	Project 2
	Minor/Second Major 3		Advance Selective

July Entry (preferred)

		Semester 2, Year 1	
		Code	Course Title
		ENB205	Electrical and Computer Engineering
		ENB321	Fluids Dynamics
			Minor/Second Major 4
			Minor/Second Major 2

Semester 1, Year 2		Semester 2, Year 2	
Code	Course Title	Code	Course Title
ENB311	Stress Analysis	ENB317	Design and Maintenance of Machinery
ENB312	Dynamics of Machinery	ENB313	Automatic Control
ENB316	Design of Machine Elements	BEB801	Project 1
	Minor/Second Major 1		Advance Selective

Semester 1, Year 3			
Code	Course Title		
ENB421	Thermodynamics 2		
BEB802	Project 2		
SEB400	Foundations of Research		
	Minor/Second Major 3		

New QUT Units Name:
BEB801 Project 1
Synopsis: This unit is usually taken in the final year of study. Students complete an individual project involving the application of skills and knowledge attained during the earlier years of their degree program. For some students, this unit will be taken one of two ‘project’ units related to the same student project; in such cases this unit may be a pre-requisite or co-requisite to the second unit (or a follow-on from the first unit). The final ‘deliverable’ for this unit may vary for each discipline and details will be provided in lectures/tutorials and on the Blackboard website.

BEB802 Project 2
Synopsis: This unit is usually taken in the final year of study, and is only taken by students completing a two unit project. Students complete an individual project involving the application of skills and knowledge attained during the earlier years of their degree program. This unit will be taken as the second of two ‘project’ units related to the same student project.

SEB400 Foundations of Research
Synopsis: This unit facilitates the acquisition of knowledge and skills essential to engaging with, and conducting research. This unit introduces you to the research process, project planning and management, and methodologies used in science, information technology, engineering, mathematics, urban development and property economics.

The learning acquired in this unit will be applied to your project which is further developed in the Research units.

Curriculum Design for University of Queensland (UQ) 2+2

Course list for the Mechanical Engineering Single Major

Show information for:

Information valid for students commencing 2016

Mechanical Engineering
Students must complete for the BE(Hons) (Mechanical Engineering) a Single Major (Plan code: MECHAX2342) or Extended Major (Plan code: MECHAY2342), #64 comprising one of the following:

1. a. a major - #50, comprising all compulsory courses listed in Part A of the Mechanical Engineering lists; and
   b. balance from electives, being courses from the BE(Hons) list or other courses approved by the executive dean, with
      (i) a minimum of #6 from courses on the BE(Hons) list, other than courses on the Mechanical Engineering Part B0 list, and
      (ii) a maximum of #4 from courses from part B0 of the Mechanical Engineering list, and
      (iii) a maximum of #4 from level one courses not on the BE(Hons) list;

OR

2. a. an extended major - #60, comprising
      (i) #50 being all courses in part A compulsory;plus
      (ii) #10 from part B Electives under Extended Major; and
   b. balance from electives, being courses from the BE(Hons) list or other courses approved by the Executive Dean.

Part A – Compulsory

Year 1, Semester 1		
Course Code	**Units**	**Course Title**
ENGG1100	2	Engineering Design
Year 1, Semester 1 or 2		
Course Code	**Units**	**Course Title**
ENGG1300	2	Introduction to Electrical Systems
ENGG1400	2	Engineering Mechanics: Statics & Dynamics
ENGG1500	2	Engineering Thermodynamics
MATH1051	2	Calculus & Linear Algebra I [1]
Year 1, Semester 2		
Course Code	**Units**	**Course Title**
ENGG1200	2	Engineering Modelling & Problem Solving
MATH1052	2	Multivariate Calculus & Ordinary Differential Equations
Year 2 Semester 1		
Course Code	**Units**	**Course Title**
MATH2000 MATH2001	2 2	Calculus & Linear Algebra II or Advanced Calculus and Linear Algebra
MECH2300	2	Structures & Materials
MECH2305	2	Introduction to Engineering Design and Manufacturing
MECH2410	2	Fundamentals of Fluid Mechanics

Year 2 Semester 2		
Course Code	**Units**	**Course Title**
MECH2100	2	Machine Element Design
MECH2210	2	Intermediate Mechanical & Space Dynamics
MECH2700	2	Engineering Analysis I
Year 3 Semester 1		
Course Code	**Units**	**Course Title**
MATH2010	1	Analysis of Ordinary Differential Equations
MECH3300	2	Finite Element Method & Fracture Mechanics
MECH3400	2	Thermodynamics & Heat Transfer
MECH3600	2	Engineering Management & Communication
STAT2201	1	Analysis of Engineering & Scientific Data
Year 3 Semester 2		
Course Code	**Units**	**Course Title**
MECH3100	2	Mechanical Systems Design
MECH3200	2	Advanced Dynamics & Vibrations
MECH3410	2	Fluid Mechanics
Year 3 or 4 #2 from -		
Course Code	Units	Course Title
MECH3250	2	Engineering Acoustics
MECH3750	2	Engineering Analysis II
ENGY4000	2	Energy Systems
METR3100	2	Sensors & Actuators
Year 4		
Course Code	**Units**	**Course Title**
METR4201	2	Introduction to Control Systems
and at least #4 from -		
Course Code	Units	Course Title
ENGG4011	6	Professional Engineering Project
MECH4500	4	Engineering Thesis [2]
MECH4501	4	Engineering Thesis [2]
MECH4552	4	Major Design Project [2]
Part B Electives Part B0 - Preparatory Mathematics & Science Electives		
CHEM1090	2	Introductory Chemistry [3]
MATH1050	2	Mathematical Foundations [1] [4]
PHYS1171	2	Physical Basis of Biological Systems [5]

Extended Major

Students enrolled in the extended major are required to obtain the major plus an additional #10 from introductory or advanced electives from Part B1 or B2, including a minimum of #8 from Part B2. Students participating in the CEED program and undertaking #6 ENGG4011 are only required to obtain an additional #8 towards the extended major, including a minimum of #6 from Part B2.

B1 - Introductory Electives		
Course Code	Units	Course Title
CHEM1100	2	Chemistry 1
CSSE1001	2	Introduction to Software Engineering
ENGG1600	2	Introduction to Research Practices - The Big Issues
PHYS1002	2	Electromagnetism and Modern Physics

B2 - Advanced Electives		
Course Code	Units	Course Title
AERO4300	2	Aerospace Composites
CHEE4302	2	Electrochemistry & Corrosion
ELEC2003	2	Electromechanics & Electronics
ENGG4103	2	Engineering Asset Management
ENGG4900	2	Professional Practice and the Business Environment
ENGY4000	2	Energy Systems
FIRE3700	2	Introduction to Fire Safety Engineering
MECH3250	2	Engineering Acoustics
MECH3305	2	Science & Engineering of Metals
MECH3750	2	Engineering Analysis II
MECH4301	2	Materials Selection
MECH4304	2	Net Shape Manufacturing
MECH4450	2	Aerospace Propulsion
MECH4470	2	Hypersonics & Rarefied Gas Dynamics
MECH4480	2	Computational Fluid Dynamics
MECH4552	4	Major Design Project [2]
MECH4800	2	Space Engineering
MECH4950	2	Special Topics C
MECH4951	1	Special Topics D
METR3100	2	Sensors & Actuators
METR4202	2	Advanced Control & Robotics
TIMS3309	2	Fundamentals of Technology and Innovation Management

End notes

- [1] Students without at least a Sound Achievement in Senior Maths C are required to take MATH1050 as an elective before MATH1051
- [2] This course is offered over more than one semester. Enrol in the same course code in each semester.
- [3] CHEM1090 is not available for students with a Sound Achievement or higher in Senior Chemistry or equivalent.
- [4] MATH1050 is not available for students with a High Achievement or higher in Senior Maths C. MATH1050 is not available to students who have passed MATH1051 and/or MATH1052.
- [5] PHYS1171 is not available for students with a Sound Achievement or higher in Senior Physics or equivalent.