

BACHELOR OF ENGINEERING (AEROSPACE) (HONOURS) CURRICULUM STRUCTURE

SEMESTER I - 17.5 c.h. (16.5 c.h.)

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
EECE 1311	Electric Circuits	3		
MANU 1201	Engineering Drawing	2		
MECH 1301	Statics	3		
MATH 1310	Engineering Mathematics I	3		
LE 4000	English for Academic Purposes	3		
LM 1030	Bahasa Melayu 1 for Foreign Students	0(1)		
LM 2026	Bahasa Melayu for Engineering	2(0)		
TQ 1011	Tilawah I	1		
CCXX YYYY	Study Circle	0.5		

SEMESTER II - 16.5 c.h. (17.5 c.h.)

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
MECH 1302	Dynamics	3	MECH 1301	
EECE 1312	Electronics	3	EECE 1311	
MATH 1320	Engineering Mathematics II	3	MATH 1310	
EECE 1101	Electrical Engineering Lab	1	EECE 1311	
EECE 1313	Programming for Engineers	3		
MANU 1202	Workshop Technology	2	MANU 1201	
LM 1031	Bahasa Melayu 2 for Foreign Students	0(1)		
TQ 2011	Tilawah II	1		
CCXX YYYY	Study Circle	0.5		

Note: credit hours in bracket is for international students

SEMESTER III (18.5 c.h.)

Course Code	Course Title	Credit hours	Pre-requisites	Co-requisites
MECH 2340	Fluid Mechanics	3	MATH 1320	MECH 2322 MATH 2320
MECH 2322	Thermal Sciences	3	MATH 1320	
MATR 2381	Materials Science and Engineering	3	MANU 1202	
MANU 2381	Manufacturing Processes	3	MANU 1202	
MATH 2310	Differential Equations and Statistics	3	MATH 1320	
UNGS 2030	The Islamic Worldview	3		
CC XXXX	Co-curriculum	0.5		

SEMESTER IV (16.5 c.h./17.5 c.h.)

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
MECH 2324	Principles of Flight	3	MECH 2340	
MECH 2326	Aerospace Dynamics	3	MECH 1302 MATH 2320	
MECH 2342	Mechanics of Materials	3	MECH 1301	
MECH 2128	Aerospace Engineering Lab I	1	MATR 2381 MECH 2322	MECH 2342
MATH 2350	Partial Differential Equations	3	MATH 2320	
UNGS 2040	Islam, Knowledge and Civilization	3	UNGS 2030	
LM 1031/ LM 1041	Bahasa Melayu II Untuk Pelajar Asing Bahasa Melayu Nusantara II	(1)*	LM 1030/ LM 1040	
CCxx xxxx	Co-curriculum	0.5		

* For international students

SEMESTER V (18 c.h.)

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
MECH 3220	Space Mechanics	2	MECH 2326	
MECH 3321	Aircraft Structures I	3	MECH 2342	
MECH 3340	Control Systems	3	MECH 2324 MATH 2350	
MECH 3322	Aerodynamics I	3	MECH 2324	
MECH 3323	Instrumentation and Avionics	3	EECE 1312	
MANU 3314	Project and Operation Management	3	MATH 2320	
MECH 3100	Seminar	1	UNGS2040	

SEMESTER VI (17 c.h.)

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
MECH 3324	Aerospace Propulsion	3	MECH 3322	
MECH 3325	Aircraft Structures II	3	MECH 3321	
MECH 3326	Aerodynamics II	3	MECH 3322	
MECH 3300	Integrated Design Project	3	MECH 2322 MECH 3321 MECH 3322 MANU 3314 MECH 3340	
MECH 3128	Aerospace Engineering Lab II	1	MECH 3340 MECH 3321	
MANU 3318	Engineering Economics & Management	3	MANU 3314	
CCxx xxxx	Co-curriculum	0.5		
CCxx xxxx	Co-curriculum	0.5		

INDUSTRIAL TRAINING (5 c.h.)

Course Codes	Course Title	Credit Hours	Pre-Requisites
EIT KR 3511	Engineering Industrial Training	5	Completed at least 90 Credit Hours

SEMESTER VII (15 c.h.)

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
MECH 4224	Spacecraft Dynamics and Control	2	MECH 3220 MECH 3340	
MECH 4322	Flight Dynamics and Control	3	MECH 3340 MECH 2326	
MECH 43XX	Department Elective	3		
MECH 4398	Project I	3	Fourth Year Standing	
MECH 4128	Aerospace Engineering Lab III	1	MECH 3323 MECH 3326	
UNGS 2050	Ethics and Fiqh for Everyday Life	3	UNGS 2040	

SEMESTER VIII (15 c.h.)

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
MECH 4326	Aerospace Vehicle Design	3	MECH 3325 MECH 3326 MECH 4322	
MECH 43XX	Department Elective	3		
MECH 4399	Project II	3	MECH 4398	
MECH 4129	Aerospace Engineering lab IV	1	MECH 3324 MECH 4224	
MANU 4211	Technology Entrepreneurship	2	MANU 3318	
GENE 4300	Engineering Ethics from Islamic Perspective	3	UNGS 2050	

LIST OF ELECTIVE COURSES FOR AEROSPACE ENGINEERING

The elective courses are divided into three groups or streams. This is to promote focus towards a particular area.

AEROTHERMODYNAMICS AND PROPULSION

Course Code	Course Title	Credit Hours	Pre-requisites	Co-requisites
MECH 4360	Helicopter Aerodynamics			
MECH 4362	Rocket Propulsion			
MECH 4383	Computational Fluid Dynamics			
MECH 4384	Renewable Energy			

STRUCTURES, MATERIALS AND MANUFACTURING

Course Code	Course Title	Credit Hours	Pre-requisites	Co-requisites
MECH 4363	Aeroelasticity			
MECH 4380	Finite elements analysis			
MECH 4381	Computer Aided Engineering			
MECH 4387	Composite Structures			

AEROSPACE SYSTEMS, SAFETY AND MAINTENANCE

Course Code	Course Title	Credit Hours	Pre-requisites	Co-requisites
MECH 4364	Spacecraft Systems Engineering			
MECH 4365	Airworthiness			
MECH 4385	Fatigue and Fracture Mechanics			
MECH 4386	Nondestructive Evaluation of Structures			

SELECTED TOPICS

Course Code	Course Title	Credit Hours	Pre-requisites	Co-requisites
MEC 4368	Special Topics in Aerospace Engineering I			
MEC 4369	Special Topics in Aerospace Engineering II			