

PROGRAMME : BACHELOR OF MANUFACTURING ENGINEERING WITH HONOURS
TYPE : FULL TIME
BATCH : 202 AND ABOVE (NEW UNICORE + NEW CURRICULUM STRUCTURE)

SUMMARY

TYPE OF COURSES	CREDIT HOURS	ELEMENT
A. University Required Course (UNICORE)	20	UNGS (1201,1301,2290,2380), Language (LEED 1301, LMBD – not counted, LQAD 1003, 2003, TQTD 1002, 2002), Co-Curricular (CCUB)
B. Kulliyah Required Courses (KRC)	14	MATHS (4 courses x 3 Crs each) Technology Entrepreneurship (MANU) (2 Crs)
C. Engineering Core Courses	90	
D. Engineering Elective Courses	6	
E. Free Elective	6	
TOTAL	136	

A. UNIVERSITY REQUIRED COURSES (UNICORE)

No .	Course Code	Course Title	Credit Hours	Grading Remarks*	Pre-Requisite	Requirement
1.	CCUB 1061	Usrah 1	0.5	P/F (CT)		
2.	CCUB 1062	Usrah 2	0.5	P/F (CT)	CCUB 1061	
3.	CCUB 2163	Usrah in Action 1 (Community profiling)	1	P/F	UNGS 1201	Year 3
4.	CCUB 3164	Usrah in Action 2	1	P/F	CCUB 2163	
5.	LEED 1301	English for Academic Writing	3	Normal Grading		Year 1
6.	*LMBD 1131	Bahasa Melayu 1 (Non Malay speakers)	1	Normal Grading		Year 1 (Only for non Malay speaker)
7.	*LMBD 1132	Bahasa Melayu 2 (Non Malay Speakers)	1	Normal Grading	LMBD 1131	Year 2 (Only for non Malay speaker)
8	TQTD 1002	Tilawah Al-Quran 1	0.5	P/F		Year 1
9.	TQTD 2002	Tilawah Al-Quran 2	0.5	P/F	TQTD 2001	Year 2
10.	UNGS 1201	Sustainable Development: Issues, Policies and Practices	2	Normal Grading		Year 1
11	UNGS 1301	Basic Philosophy and Islamic Worldview	3	Normal Grading		Year 1
12	UNGS 2290	Knowledge and Civilization in Islam	2	Normal Grading	UNGS 1301	

13	UNGS 2380	Ethic and Fiqh of Contemporary issues	3	Normal Grading	UNGS 2290	
14	CCLM 2051	Leadership	0.5	Normal Grading		
15	CCFM 2061	Family Management	0.5	Normal Grading		
16	CCSS 1010/2010 /3010	Skill 1	0.5	P/F		
17	CCSS 1010/2010 /3010	Skill 2	0.5	P/F		
18	LQAD 1003	Arabic for Ibadah 1	0.5	Normal Grading		Year 1
19	LQAD 2003	Arabic for Ibadah 2	0.5	Normal Grading	LQAD 1003	Year 2
TOTAL: 20						

* Credit Hours Not counted

B. KULLIYAH REQUIRED COURSE (KRC)

KRC						
No	Course Code	Course Title	Cr Hrs	Grading Remarks	Pre Requisite	Cross Listed Code
1	MATH 1310	Engineering Mathematics 1	3	Normal Grading		Same code
2	MATH 1321	Engineering Mathematics 2	3	Normal Grading	MATH 1310	MATH 1320
3	MATH 2311	Differential Equations	3	Normal Grading	MATH 1321	
4	MATH 2330	Computational Methods and Statistics	3	Normal Grading	MATH 2311	Same code
5	MFGA 4210	Technology Entrepreneurship	2	Normal Grading	MFGA 3300	MANU 4211
TOTAL: 14						

C.1 ENGINEERING CORE COURSES (LEVEL 1)

LEVEL 1						
No	Course Code	Course Title	Cr Hrs	Grading Remarks	Pre Requisite	Cross Listed Code
1	EECE 1102	Electrical Engineering Lab 1	1	Normal Grading	EECE 1316	
2	EECE 1316	Fundamental of Electrical and Electronics	3	Normal Grading		
3	MECH 1340	Engineering Mechanics	3	Normal Grading		
4	MFGA 1201	Computer Aided Drawing	2	Normal Grading		MANU 1201
5	MFGA 1202	Workshop Technology	2	Normal Grading	MFGA 1201	MANU 1202
TOTAL: 11						

C.2 ENGINEERING CORE COURSES (LEVEL 2)

LEVEL 2						
No	Course Code	Course Title	Cr Hrs	Grading Remarks	Pre Requisite	Cross Listed Code
1	EECE 1313	Programming for Engineers	3	Normal Grading		Same code
2	MCTA 1101	Mechatronics Workshop	1	Normal Grading		
3	MECH 2440	Thermofluid Engineering	4	Normal Grading	MECH 1340	MECH 2344
4	MFGA 2303	Safety, Health, Environment and Ergonomics	3	Normal Grading	MFGA 1201	
5	MFGA 2304	Industrial Internet of Things	3	Normal Grading	EECE 1316	
6	MFGA 2305	Project and Operations Management	3	Normal Grading	MATH 1321	MANU 3314
7	MFGA 2306	Engineering Materials	3	Normal Grading		
8	MFGA 2307	Manufacturing Processes	3	Normal Grading	MFGA 1202	
9	MFGA 2131	Manufacturing Lab 1	1	Normal Grading	MFGA 1202	MANU 2101
			TOTAL: 24			

C.3 ENGINEERING CORE COURSES (LEVEL 3)

LEVEL 3						
No	Course Code	Course Title	Cr Hrs	Grading Remarks	Pre Requisite	Cross Listed Code
1	MFGA 3300	Integrated Design Project	3	Normal Grading	MFGA 2305; MFGA 3308; LEED 1301	MANU 3300
2	MFGA 3308	Engineering Design and Product Development	3	Normal Grading	MFGA 1202	MANU 3317
3	MFGA 3309	Engineering Economics and Management	3	Normal Grading	MFGA 2305	MANU 3318
4	MFGA 3310	Mechanical Design and Vibration	3	Normal Grading	MATH 2311	
5	MFGA 3311	Industrial Tools and Machines	3	Normal Grading	MFGA 2307	
6	MFGA 3312	Quality Control and Improvement	3	Normal Grading	MATH 2330	MANU 3313
7	MFGA 3313	CAD/CAM/CAE	3	Normal Grading	MFGA 1201	MANU 3316
8	MFGA 3314	Additive Manufacturing	3	Normal Grading	MFGA 2307	
9	MFGA 3315	Smart Manufacturing	3	Normal Grading	MCTA 1101	
10	MFGA 3132	Manufacturing Lab 2	1	Normal Grading	MFGA 2131	MANU 3101
11	MFGA 3133	Manufacturing Lab 3	1	Normal Grading	MFGA 3132	
12	MFGA 3500	Engineering Industrial Training	5	P / F		EITR 3551
			TOTAL: 34			

C.4 ENGINEERING CORE COURSES (LEVEL 4)

LEVEL 4						
No	Course Code	Course Title	Cr Hrs	Grading Remarks	Pre Requisite	Cross Listed Code
1	GENE 4301	Engineering Ethics, Safety and Sustainability	3	Normal Grading	UNGS 2380	GENE 4300
2	MFGA 4200	Final Year Project 1	2	Normal Grading	LEED 1301	
3	MFGA 4316	Production Planning and Control	3	Normal Grading	MFGA 2305	MANU 4312
4	MFGA 4317	Supply Chain and Logistics in Manufacturing	3	Normal Grading	MFGA 2305	
5	MFGA 4318	Energy for Manufacturing	3	Normal Grading	MECH 2444; MFGA 2307	
6	MFGA 4319	Agile Manufacturing System	3	Normal Grading	MFGA 3309	
7	MFGA 4400	Final Year Project 2	4	Normal Grading	MFGA 4200; EITR 3500	
			TOTAL: 21			

D. ENGINEERING ELECTIVES COURSES (CHOOSE 2 COURSES OUT OF 12)

LEVEL 4						
No	Course Code	Course Title	Cr Hrs	Grading Remarks	Pre Requisite	Cross Listed Code
1	MFGA 4351	Die Design and Manufacturing	3	Normal Grading	MFGA 3311	
2	MFGA 4352	Human-Centered Design	3	Normal Grading	MFGA 2303	
3	MFGA 4353	Industrial Tribology	3	Normal Grading	MFGA 2307	
4	MFGA 4354	Machine Learning	3	Normal Grading	EECE 1313	
5	MFGA 4355	Metal and Composite Machining	3	Normal Grading	MFGA 2306; MFGA 2307	MANU 4343
6	MFGA 4356	Metal Forming	3	Normal Grading	MFGA 2307	MANU 4354
7	MFGA 4357	Micromachining Technology	3	Normal Grading	MFGA 2307	
8	MFGA 4358	Non-metallic Materials Processing	3	Normal Grading	MFGA 2307	MANU 4347
9	MFGA 4359	Non-traditional Machining	3	Normal Grading	MFGA 2307	MANU 4346
10	MFGA 4360	Precision Engineering	3	Normal Grading	MFGA 1202	MANU 4348
11	MFGA 4361	Sustainable Manufacturing	3	Normal Grading	MFGA 3308	
			TOTAL: 6			

Undergraduate Grading Remarks

Grading Remarks (*)

Type/Grade	Explanation	Hours Credited	Hours Earned
Normal	Normal Grading(A,B,C,D, etc)	Yes	Yes
PA/FA	Pass / Fail Course or for practical training	Yes	Yes
AU	Course Audited	No	No
PR	Passed Resit	Yes	Yes
FR	Failed Resit	Yes	No
EX	Exemption	Yes	Yes
Y	Barred from Final Exam	Yes	No
I	Incomplete	No	No