



Curriculum for the Bachelor Degree in Materials Engineering

Curriculum For The Bachelor Degree In Materials Engineering 2020



Established 1997

Curriculum for the Bachelor Degree in Materials Engineering

The curriculum for the B.S.c. degree in Materials Engineering consists of (162) credit hours are distributed as follows:-

Course No.	Requirements	Credit Hours (Cr.H)
1	University Requirements	24
	- Compulsory - Elective	18 6
2	Faculty Requirements	32
3	Specialization Requirements	106
	- Compulsory - Elective	97 9
Total		162

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First: University Requirement (24 Cr .H.)

A: Compulsory Requirements (18 Cr.H.):

Course No.	Course	Cr. Hrs.	Weekly Hrs.		Prerequisite
			Lec.	Lab.	
AAL101	Applied Arabic Language	3	3	0	Arabic 99 OR passing Arabic Level Exam
AEL101	Applied English Language (1)	3	3	0	English 99 OR passing English Level Exam
AEL102	Applied English Language (2)	3	3	0	AEL101
NE101	National Education and University Behavior	3	3	0	-
35001101	Military Sciences	3	3	0	Passing 90 Cr. Hrs.
CS101	Computer Skills and Distance Learning	1	1	0	Computer Skills 99 OR passing Computer Skills Level Exam
IEC101	Innovation, Entrepreneurship, and Creativity	2	2	0	-
Total		18	18	0	

B: Elective University Requirements: (6 Cr.H.)

The student is allowed to select (6 Cr.H.) from the university elective courses offered by faculties other than the faculty of college.

Course No.	Course	Credit Hours
36001101	Communication Skills	3
36002102	Introduction to Psychology	3
36003103	Jordan Society	3
36004104	Sport for All	3
36005105	Islamic Culture	3
36006110	Modern Administrative Concepts and skills	3
36009111	Economic Concepts	3
36007107	Agriculture in Jordan	3
36008108	Environment and Society	3
36012109	History of the Rightly Guided Caliphs	3
36009114	Jerusalem (Palestinian issue)	3
36009112	Law, Media and Society	3
36009109	Islam and Life	3
36009115	Digital Community	3
Total		6

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Second: Faculty Requirements: (32 Cr .H.)

Course No.	Course Title	Cr.H.	Weekly Hours		Prerequisite
			Lecture	Lab.	
30202101	Calculus 1	3	3	0	--
30202102	Calculus 2	3	3	0	30202101
30201101	General Physics 1	3	3	0	--
30201102	General Physics 2	3	3	0	30201101
30201111	General Physics 1 Lab.	1	0	3	*30201101
30206101	General Chemistry 1	3	3	0	--
30206102	General Chemistry 1 Lab.	1	0	3	*30206101
30202203	Ordinary Differential Equations (1)	3	3	0	30202102
BSE0201	Programming for Engineers	3	2	3	CS0101
BSE0203	Technical Writing & Professional Ethics	3	3	0	AEL102
BSE0205	Engineering Drawing	2	0	6	CS101
BSE0102	Engineering Workshop	1	0	3	--
BSE0401	Engineering Economy	3	3	0	80 credit hrs.
Total		32	26	18	

* co-requisite

Third: Specialization Requirements: (106 Cr .H.)

A: Compulsory Requirements: (97 Cr .H.)

Course No.	Course Title	Cr.H.	Weekly Hours		Perquisites
			Lectures	Lab	
MAE0211	Materials Science 1	3	3	0	30206101
MAE0212	Materials Science 2	3	3	0	MAE0211
MAE0214	Materials Science Lab.	1	0	3	MAE0212
MAE0315	Introduction to Polymer Science	3	3	0	30206103
MAE0310	Testing and Evaluation of Engineering Materials	3	3	0	MAE0212 MEE0214
MAE0312	Testing and Evaluation of Engineering Materials lab.	1	0	3	MAE0310*
MAE0316	Polymeric Materials	3	2	3	MAE0315
MAE0416	Ceramic Materials	3	3	0	100 cr .hrs
MAE0226	Crystallography	3	3	0	MAE0211
MAE0228	Crystallography lab.	1	0	3	*MAE0226



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BSE0306	Numerical Methods	3	3	0	30202102
MAE0321	Metallography	3	2	3	MAE0212
MAE0323	Physical Metallurgy	3	3	0	MAE0226
MAE0421	Phase Transformation	3	3	0	30127325M AE0323
MAE0429	Heat Treatments	3	2	3	MAE0321
MAE0422	Corrosion and Protection of Metals	3	3	0	MAE0347
MAE0424	Corrosion and Protection of Metals Lab.	1	0	3	MAE0422*
MAE0334	Extractive Metallurgy	3	3	0	MAE0347
MAE0437	Manufacturing Processes	3	3	0	MAE0310 MEE207
MAE0430	Metals Casting	3	3	0	MAE0349 MAE0421
MAE0432	Metals Casting Lab.	1	0	3	MAE0430*
MAE0534	Materials Selection and Design	3	3	0	MAE0437
MAE0433	Technology of Iron and Steelmaking	3	3	0	MAE0334 MAE0348
MAE0531	Polymer Processing	3	3	0	MAE0316
MAE0533	Composite Materials	3	3	0	MAE0513 MAE0316
MAE0530	Nanomaterials Technology	3	3	0	MAE0513 MAE0316
MEE0214	Strength of Materials	3	3	0	CIE0221
MAE0347	Thermodynamics of Materials 1	3	3	0	30206102
MAE0348	Thermodynamics of Materials 2	3	3	0	MAE0347
MAE0349	Transport phenomena	3	3	0	MAE0347
MAE0458	Field Training	3	0	0	115 cr.hrs.
MAE0551	Graduation Project (1)	1	0	0	120 cr.hrs.
MAE0552	Graduation Project (2)	3	0	0	MAE0551
ELE0217	Electrical and Electronics Engineering	3	2	3	30201101
30206103	General Chemistry 2	3	3	0	30206101
30206104	General Chemistry 2 Lab.	1	0	3	30206103
CIE0221	Statics	3	3	0	30202102 30201101
Total		97	87	30	

* co-requisite



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B: Elective Specialization Requirements: (6 Cr.H.) to be selected from the following list:

Course No.	Course Title	Cr.H	Weekly Hours		Prerequisites
			Lectures	Lab	
MAE0565	Computational Methods in Materials science	3	3	0	BSE0306 115 cr.hrs
MAE0564	Non-Destructive Testing	3	3	0	MAE0310 115 cr.hrs
MAE0567	Engineering Biomaterials	3	3	0	MAE0513 MAE031611 115 cr.hrs
MAE0569	Materials and Energy	3	3	0	115 cr.hrs
MAE0560	Fuels and Furnaces	3	3	0	MAE0349 115 cr.hrs
MAE0566	Cathodic Protection Design	3	3	0	MAE0422 115 cr.hrs
MAE0568	Quality Control and Management	3	3	0	115 cr.hrs
MAE0561	Extractive Metallurgy of Non-Ferrous Metals	3	3	0	MAE0334 115 cr.hrs