

Degree Plan in Materials Science and Engineering

FRESHMAN YEAR (Common Engineering First Year)

<i>Fall</i>	<i>sch</i> <i>Pre/Co-reqs</i>	<i>Spring</i>	<i>sch</i> <i>Pre/Co-reqs</i>
MATH 151 - Eng. Math I	4 MATH 150 ¹	MATH 152 - Eng. Math II	4 MATH 151
CHEM 101/111 - Fund. Chem I *	4	CHEM 102/112 - Fund. Chem II	4 CHEM 101/111, or CHEM 107/117
ENGL 104 - Comp & Rhetoric	3	PHYS 218 - Newtonian Mechanics	4 MATH 151 or 171, PHYS 216 ^{cr}
ENGR 111 - Foundations of Eng. I	2 MATH 151 ^{cr}	ENGR 112 - Foundations of Eng. II	2 MATH 151 or 171, ENGR 111
UCC Elective	3	UCC Elective	3
	16		17

SOPHOMORE YEAR

<i>Fall</i>	<i>sch</i> <i>Pre/Co-reqs</i>	<i>Spring</i>	<i>sch</i> <i>Pre/Co-reqs</i>
PHYS 208 - Electricity, Magnetism, and Light	4 PHYS 218, MATH 152 or 172	UCC Comm. Elective (COMM 205 or ENGL 210)	3
UCC Elective	3	MSEN 210 - Thermodynamics of Mater.	3 MSEN 201 ^{cr} , MATH 152 ^{cr}
MATH 251 - Eng Math III	3 MATH 152	MSEN 250 - Soft Matter	3 MSEN 201 ^{cr} , CHEM 120
MSEN 201 - Fundamentals of Materials	3 PHYS 206, CHEM 119 or CHEM 107	MSEN 301 - Unified Mat. Lab 1 ^w	3 MSEN 210 ^{cr} , MSEN 260 ^{cr}
MSEN 205 - Materials in Society	2 MSEN 201 ^{cr}	MSEN 260 - Structure of Materials	3 MSEN 201 ^{cr}
	15	MSEN 281 - Materials Seminar	1 MSEN 201 ^{cr}
			16

JUNIOR YEAR

<i>Fall</i>	<i>sch</i> <i>Pre/Co-reqs</i>	<i>Spring</i>	<i>sch</i> <i>Pre/Co-reqs</i>
MATH 308 - Differential Equations	3 MATH 251	MSEN 330 - Num Mthds for Mater Sci Eng	3 MSEN 305, MSEN 320, MATH 307
MSEN 305 - Kinetics of Materials	3 MSEN 210	MSEN 400 - Design Analys. Mater Exp	3 MSEN 302
MSEN 302 - Unified Mat. Lab 2 ^w	3 MSEN 320 ^{cr} , MSEN 301	MSEN Tech Elective 1	3
MSEN 320 - Deform. and Failure Mech. in Eng. Materials	3 MSEN 260	MSEN 360 - Materials Characterization	3 MSEN 250, MSEN 260
MSEN 380 - Communicating Mat Sci Eng	1 COMM 205, or ENGL 210	MSEN 325 - Functional Materials Prop	3 MSEN 260
MSEN 399 - High Impact Experience for Materials Engineers	0 MSEN 205, MSEN 281	UCC Elective	3
UCC Elective	3		
	16		18

SENIOR YEAR

<i>Fall</i>	<i>sch</i> <i>Pre/Co-reqs</i>	<i>Spring</i>	<i>sch</i> <i>Pre/Co-reqs</i>
ENGR 482 - Ethics & Eng ^w	3	MSEN 402 - Materials Research Design II	3 MSEN 401
MSEN 401 - Materials Research Design I	3 MSEN 205, MSEN 281, MSEN 400	MSEN Tech Elective 3	3
MSEN 410 - Materials Processing	3 MSEN 250, MSEN 305, MSEN 320	Specialty Elective 2	3
MSEN Tech Elective 2	3	Specialty Elective 3	3
Specialty Elective 1	3	UCC Elective	3
	15		15

* CHEM 107/CHEM 117 is accepted in place of CHEM 101/111.

^{cr} co-rec

¹ or placement exam

^w writing intensive class

^c communications intensive class

Engineering First Year	31 sch
UCC Electives	21 sch
MSEN Core	58 sch
MSEN Tech Electives	9 sch
Specialty Electives	9 sch
TOTAL	128 sch

