

Materials Science and Engineering 5 Year Plan of Study for ROTC Students

First Year					
FALL			SPRING		
Course	Course Title	Credits	Course	Course Title	Credits
CHEM 1035	General Chemistry <i>Co: MATH 1225</i>	3	ENGE 1216	Foundations of Engineering (C-) <i>Pre: ENGE 1215 (C-)</i>	2
CHEM 1045	General Chemistry Lab <i>Co: CHEM 1035</i>	1	ENGL 1106	First-Year Writing <i>Pre: ENGL 1105</i>	3
ENGE 1215	Foundations of Engineering (C-)	2	MATH 1226	Calculus of a Single Variable <i>Pre: MATH 1225 (C-)</i>	4
MATH 1225	Calculus of a Single Variable (C-) <i>Pre: Math Ready</i>	4	PHYS 2305	Foundations of Physics <i>Pre: MATH 1225; Co: MATH 1226</i>	4
ENGL 1105	First Year Writing	3			
	ROTC	Varies		ROTC	Varies
Total Credit Hours		13 - 18	Total Credit Hours		13 - 18
Second Year					
FALL			SPRING		
Course	Course Title	Credits	Course	Course Title	Credits
MSE 2044	Fund of Materials Engr. (C) <i>Pre: CHEM 1035; Co: PHYS 2305</i>	4 [F,S]	MSE 2054	Fund of Materials Science <i>Pre: 2044</i>	3 [S]
MSE 2884	Materials Eng Prof Dev I	1 [F]	MSE 3314	Materials Lab I <i>Pre: 2044</i>	1 [S]
MATH 1114	Elem. Linear Algebra	2	MSE 2114	MATH Methods in MSE I <i>Pre: 2044</i>	1 [S]
MATH 2204	Intro Multivariable Calculus <i>Pre: MATH 1226</i>	3	ESM 2104	Statics <i>Pre: MATH 1226; Co: MATH 2204 or MATH 2204H or MATH 2224 or MATH 2406H</i>	3
PHYS 2306	Foundations of Physics <i>Pre: MATH 1226, PHYS 2305</i>	4	CHEM 1036	General Chemistry II <i>Pre: CHEM 1035</i>	3
			MATH 2214	Differential Equations <i>Pre: (1114 or 21114 or 2114H or 2405H), 1226</i>	
	ROTC	Varies		ROTC	Varies
Total Credit Hours		14 - 18	Total Credit Hours		14 - 18
Third Year					
FALL			SPRING		
Course	Course Title	Credits	Course	Course Title	Credits
MSE 3114	Math Methods in MSE II <i>Pre: 2114</i>	1 [F]	MSE 3054	Mech Behav. Of Materials ESM 3054 <i>Pre: ESM 2204, (MSE 2034 or MSE 2044 or MSE 3094 or AOE 3094 or CEE 3684)</i>	3 [F,S]
MSE 4424	Materials Lab II <i>Pre: 2044</i>	1 [F]	MSE 3064	Mech Behav. Lab <i>Co: 3054</i>	1 [F,S]
ESM 2204	Mechanics of Def. Bodies <i>Pre: (ESM 2104 or ESM 2114), (MATH 2224 or MATH 2224H or MATH 2204 or MATH 2204H)</i>	3	ISE 2214	Manufacturing Processes Lab <i>Pre: ENGE 1216</i>	1
	Physical Materials Course	3		Physical Materials Course	3
	Pathways 2	3		Pathways 2	3
	ROTC	Varies		ROTC	Varies
Total Credit Hours		11 - 17	Total Credit Hours		11 - 17
Fourth Year					
FALL			SPRING		
Course	Course Title	Credits	Course	Course Title	Credits
MSE 3134	Cryst. and Crystal Structures <i>Pre: 2044 (C)</i>	3 [F]	MSE 3884	Materials Eng Prof Dev II <i>Pre: Junior Standing, 2884</i>	1 [S]
MSE 4034	Thermo. of Materials <i>Pre: 2044; Co: CHEM 1036</i>	3 [F]	MSE 3044	Transport Phenomena MSE <i>Pre: 2044, MATH 2214</i>	3 [S]
ECON 2005	Principles of Economics <i>Pathways 3</i>	3	MSE 4644	Mat Optimization Des Exp. <i>Pre: 3314 or 4424</i>	3 [S]
	Physical Materials Course	3		Physical Materials Course	3
				Pathways 3	3
	ROTC	Varies		ROTC	Varies
Total Credit Hours		12 - 18	Total Credit Hours		13 - 19
Fifth Year					
FALL			SPRING		
Course	Course Title	Credits	Course	Course Title	Credits
MSE 4055	MAT Selection & Design <i>Pre: 3044, 3054, 2 of (3204, 3304, 4414, 4554)</i>	3 [F]	MSE 4076	Senior Project Lab II <i>Pre: 4075; Co: 4086</i>	2 [S]
MSE 4075	Senior Project Lab I <i>Pre: 4644; Co: 4055, 4085</i>	1 [F]	MSE 4086	Senior Project Recitation II <i>Pre: 4085; Co: 4076 or 4096H</i>	1 [S]
MSE 4085	Senior Project Recitation I <i>Pre: Senior Standing, 3884; Co: 4075 or 4095H</i>	2 [F]		Technical Elective from list	3
	Technical Elective from list	3		Pathways 7	3
	Technical Elective from list	3		Pathways 6a	3
	ROTC	Varies		ROTC	Varies
Total Credit Hours		12 - 14	Total Credit Hours		12 - 14