

Metallurgical Engineering Curriculum - Approved Fall 2020

Freshman Year

FE 1100 Study & Careers in Eng.	(1)		ME 1720 Intro to Engineering Design	(3)	
Chem 1310 General Chemistry	(4)		Math 1215 Calculus for Engineers II	(4)	
			<i>Math 1160; and 1208 or 1214, or by placement exam</i>		
Chem 1319 General Chemistry Lab	(1)		Phys 1135 Engineering Physics I	(4)	
<i>*Chem 1310, *Chem 1100</i>			<i>Math 1208 or 1214</i>		
Math 1214 Calculus for Engineers I	(4)		Chem 1320 General Chemistry II	(3)	
<i>Math 1160; and 1120 or 1140, or by placement exam</i>					
Engl 1120 Exposition and Argumentation	(3)		Met Eng 2110 Metallurgy for Engr.	(3)	
			<i>*Chem 1310</i>		
Hum/Soc Sci Elective ¹	(3)				

Sophomore Year

Met Eng 3130 Metals Micro Dev	(3)		Met Eng 3420 Materials Processing	(3)	
<i>Met 2110, *Cer 3230</i>			<i>Met 2110</i>		
Met Eng 2125 Micro Dev Lab	(2)		Met Eng 3425 Metals Processing Lab	(1)	
<i>*Met 3230</i>			<i>*Met 3420</i>		
Civil Eng 2200 Statics	(3)		Civil Eng 2210 Mechanics of Matls	(3)	
<i>Phys 1135 or 1111, *Math 2222</i>			<i>CE 2200</i>		
Math 2222 Calc w/Analytic Geo III	(4)		Phys 2135 Engineering Physics II	(4)	
<i>Math 1215 or 1221</i>			<i>Phys 1135, Math 1221 or 1215</i>		
Cer Eng 3230 Thermodynamics	(3)		Hum/Soc Sci Elective ¹	(3)	
<i>Chem 1320</i>					
			Communication Elective ¹	(3)	

Junior Year

Met Eng 3120 Fund of Material Behav.	(3)		Met Eng 3220 Intro to Extractive Met	(3)	
<i>Met 2110 and CE 2210</i>			<i>Chem 1320 and *Met 3420</i>		
Met Eng 3125 Mechanical Testing	(2)		Met Eng 3225 Extractive Met Lab	(1)	
<i>Met 2110 and *Met 3120</i>			<i>*Met 3220</i>		
Met Eng 3320 Transport Phen. in Met	(3)		Cer Eng 3410 Char. of Inorganic Solids	(3)	
<i>CE 2200</i>			<i>Cer 2110 or Met 2110</i>		
Out of Program Technical Elective ³	(3)		Out of Department Technical Elective ³	(3)	
Math 3304	(3)		Statistics ²	(3)	
<i>*Math 2222</i>					
Hum/Soc Sci Elective ¹	(3)		Hum/Soc Sci Elective ¹	(3)	

Senior Year

Met Eng 4096 Senior Design I	(3)		Met Eng 4097 Senior Design II	(3)	
<i>Met 3125 and 2125</i>			<i>Met 4096</i>		
Met Eng 4350 Process Metallurgy Apps	(3)		Met Technical Elective ⁵	(3)	
<i>Cer 3230</i>					
Met Eng 4637 Materials Selection	(3)		Met Technical Elective ⁵	(3)	
<i>Met 3130 and Met 2125 and Met 3420</i>					
Met Eng 4420 Metals Casting	(3)		Hum/Soc Sci Elective ¹	(3)	
<i>Met 3420 or ME 2653</i>					
Steel Elective ⁴	(3)		Free Elective ⁶	(3)	

* Preceded or Accompanied by

¹Eighteen hours of required H/SS electives of which three hours must be history (HISTORY 1200, HISTORY 1300, HISTORY 1310, or POL SCI 1200), three hours of economics (ECON 1100 or ECON 1200) and three hours communications (ENGLISH 1160, ENGLISH 3560, or SP&M S 1185)

²All metallurgical engineering students must take MATH 3304 and one statistics course (STAT 3113 or STAT 3115)

³CHEM ENG 5320, CHEM 2210 or CHEM 2310 or CHEM 3410 or CHEM 4810, ELEC ENG 2100 & ELEC ENG 2101 or ELEC ENG 2800, GEOLOGY 2610, MATH 5603 or MATH 5325, MECH ENG 5212 or MECH ENG 5220 or MECH ENG 5229 or MECH ENG 5236 or MECH ENG 5238 or MECH ENG 5282, MIN ENG 2412, PHYSICS 2305 or PHYSICS 2311, STAT 5120 or STAT 5346 or STAT 5353.

⁴Metallurgical Electives (9 hours): Steel Elective - Steelmaking (MET ENG 4450) or Steels and Their Treatment (MET ENG 4320),

⁵Technical Electives (MET ENG or approved listing)

⁶Free Electives (3 hours)-algebra, trigonometry, basic ROTC, and courses considered remedial excluded