

Name:

Key:

Done
In Progress
Possible based on prerequisites

2017-2018 Metallurgical Engineering Curriculum

This chart was prepared by Freshman Engineering using the 2017-2018 catalog. It is designed to assist in advising and course selection; refer to the student's catalog requirement year for official requirements and to the student's degree audit for official progress.

Prerequisites	FEP		Math	1103	Fundamentals of Algebra	Prerequisite: Entrance requirements.	3	
	FEP		Math	1120	College Algebra	Prerequisite: By placement examination.	5	
	FEP		Math	1140	College Algebra	Prerequisite: By placement examination.	3	
	FEP		Math	1160	Trigonometry	Prerequisite: Math 1120 or 1140 with a grade of "C" or better; or by placement exam.	2	
	FEP		Chem	1100	Introduction to Laboratory Safety & Hazardous Materials		1	

Semester 1	FEP		Fr Eng	1100	Study & Careers in Engineering		1	
	FEP		Chem	1310	General Chemistry I	Prerequisite: Entrance requirements.	4	
	FEP		Chem	1319	General Chemistry Laboratory	Prerequisite: Preceded or accompanied by both Chem 1310 and Chem 1100.	1	
	FEP		Math	1214	Calculus for Engineers I	Prerequisites: A grade of "C" or better in both Math 1160 and one of Math 1120 or Math 1140; or by placement exam.	4	
	FEP	<i>Hum/Soc Sci Requirement-English</i>	English	1120	Exposition and Argumentation		3	
	FEP	<i>Hum/Soc Sci Elective - History</i>	History/Pol Sci	one of these	1. History 1200 Modern Western Civilization 2. History 1300 American History to 1877 3. History 1310 American History Since 1877 4. Pol Sci 1200 American Government		3	

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Semester 2			Chem	1320	General Chemistry II	Prerequisites: Chem 1310 with a grade of "C" or better and Chem 1319.	3	
	FEP		Math	1215	Calculus for Engineers II	Prerequisites: Math 1160 and either Math 1208 or Math 1214 both with a grade of "C" or better; or by placement exam.	4	
	FEP		Physics	1135	Engineering Physics I	Prerequisite: Math 1208 or 1214.	4	
	FEP	<i>Hum/Soc Sci Elective - Econ</i>	Econ	one of these	1. Econ 1100 Principles of Microeconomics 2. Econ 1200 Principles of Macroeconomics		3	
	FEP		Mech Eng	1720	Introduction to Engineering Design		3	

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Semester 3		Physics	2135	Engineering Physics II	Prerequisites: Physics 1135 or Physics 1111, Math 1221 or Math 1215.	4	
		Math	2222	Calculus with Analytic Geometry III	Prerequisites: Math 1215 or Math 1221 with a grade of "C" or better.	4	
		Met Eng	2110	Metallurgy for Engineers	Prerequisite: Preceded or accompanied by Chem 1310, prior or concurrent.	3	
		Civ Eng	2200	Statics	Prerequisites: Physics 1135 or Physics 1111 with a grade of "C" or better; Math 1215 or Math 1221 with a grade of "C" or better; preceded or accompanied by Math 2222.	3	
		<i>Hum/Soc Sci Elective</i>	various	one of these	Course chosen from Requirements for Humanities and Social Sciences Courses for Engineering Degrees at ugs.mst.edu.	Prerequisites vary.	3
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Semester 4		Cer Eng	3230	Thermodynamics of Materials	Prerequisite: "C" or better grade in either Met Eng 1210 or Chem 1320.	3	
		Civ Eng	2210	Mechanics of Materials	Prerequisite: Civ Eng 2200 with grade of "C" or better.	3	
		Met Eng	2125	Microstructural Development Laboratory	Prerequisite: Accompanied or preceded by Met Eng 3130.	2	
		Met Eng	3130	Metals Microstructural Development	Prerequisites: "C" or better grade in MET ENG 2110; accompanied or preceded by CER ENG 3230.	3	
		Met Eng	3420	Principles of Materials Processing	Prerequisite: "C" or better grade in Met Eng 2110.	3	
		Met Eng	3425	Metals Processing	Prerequisite: Accompanied or preceded by Met Eng 3420.	1	
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Semester 5		Met Eng	3320	Transport Phenomena in Metallurgy	Prerequisite: "C" or better grade in Civ Eng 2200.	3	
		Math	3304	Elementary Differential Equations	Prerequisite: Math 2222 with a grade of "C" or better.	3	
		Met Eng	3120	Fundamentals of Materials Behavior	Prerequisite: "C" or better grade in both Met Eng 2110 and Civ Eng 2210.	3	
		Met Eng	3125	Mechanical Testing of Materials	Prerequisite: "C" or better in Met Eng 2110 and preceded or accompanied by Met Eng 3120.	2	
		Met Eng	4420	Metals Casting	Prerequisite: "C" or better grade in either Met Eng 3420 or Mech Eng 2653.	3	
		<i>Hum/Soc Sci Elective - Communications</i>	various	one of these	1. English 1160 Writing and Research 2. English 3560 Technical Writing 3. SP&M S 1185 Principles of Speech	1. Prerequisite: English 1120. 2. Prerequisites: English 1120 and second-semester junior standing. 3. Prerequisite: Entrance Requirements	3

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Semester 6		Met Eng	3225	Extractive Metallurgy Laboratory	Prerequisite: Preceded or accompanied by Met Eng 3220.	1		
		Met Eng	3220	Introduction to Extractive Metallurgy	Prerequisites: A grade of "C" or better in either Chem 1320 or Met Eng 1210. Preceded or accompanied by Met Eng 3330 or Cer Eng 3230 or Chem Eng 2210.	3		
		Cer Eng	3410	Characterization of Inorganic Solids	Prerequisite: "C" or better grade in either Cer Eng 2110 or Met Eng 2110 or a similar introductory course on structure of solids.	3		
		<i>Technical Elective - Out of Department</i>	various	one of these	CHEM 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.	Prerequisites vary.	3	
		<i>Technical Elective - Core I</i>	Met Eng	one of these	1. Met Eng 5150 Introduction to Particulate Materials 2. Met Eng 4230 Corrosion And Its Prevention	1. Prerequisite: Met Eng 2110 2. Prerequisite: A grade of "C" or better in either Chem Eng 3120 or Cer Eng 3230. (Co-listed with Chem Eng 5315).	3	
		<i>Hum/Soc Sci Elective</i>	various	one of these	Course chosen from Requirements for Humanities and Social Sciences Courses for Engineering Degrees at ugs.mst.edu .	Prerequisites vary.	3	

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Semester 7		Met Eng	4096	Materials Senior Design	Prerequisites: Met Eng 3125 and Met Eng 2125, or Cer Eng 3315 with a "C" or better. (Co-listed with Cer Eng 4096).	3	
	<i>Statistics Elective</i>	Stat	one of these	1. Stat 3113 Applied Engineering Statistics 2. Stat 3115 Engineering Statistics	1. Prerequisite: Math 1215 or 1221 with a grade of "C" or better. 2. Prerequisite: Math 1215 or 1221 with a grade of "C" or better.	3	
		Met Eng	4350	Process Metallurgy Applications	Prerequisite: "C" or better grade in Cer Eng 3230.	3	
	<i>Technical Elective - Core II</i>	Met Eng	one of these	1. Met Eng 4450 Steelmaking 2. Met Eng 4320 Steels And Their Treatment	1. Prerequisite: Grade of "C" or better in Cer Eng 3230 or Met Eng 3330. 2. Prerequisite: "C" or better grade in both Met Eng 3130 and Met Eng 2125.	3	
	<i>Technical Elective</i>	Met Eng		Met Eng or approved listing		3	
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Semester 8		Met Eng	4097	Materials Senior Design II	Prerequisite: "C" or better in either Cer Eng 4096 or Met Eng 4096. (Co-listed with Cer Eng 4097).	3	
	<i>Hum/Soc Sci Elective</i>	various	one of these	Course chosen from Requirements for Humanities and Social Sciences Courses for Engineering Degrees at ugs.mst.edu.	Prerequisites vary.	3	
	<i>Technical Elective</i>	Met Eng		Met Eng or approved listing		3	
	<i>Free Elective</i>	various	one of these	Free Electives (3 hours)-algebra, trigonometry, basic ROTC, and courses considered remedial excluded.	Prerequisites vary.	3	
	<i>Technical Elective - Core III</i>	Met Eng	one of these	1. CER ENG 4410 Intro to ICME 2. CER ENG 3220 Phase Equilibria 3. CER ENG 5250 Refractories 4. CHEM 4810 Chemistry and Inherent Properties of Polymers	1. Prerequisites: A grade of "C" or better in both Cer Eng 3220 and Math 3304, and in either Cer Eng 2110 or Met Eng 2110. 2. Prerequisite: "C" or better grade in Chem 1320 or Met Eng 1210. 3. Prerequisite: Cer Eng 3230. 4. Prerequisite: Chem 1320 or Met Eng 1210. (Co-listed with MS&E 4810).	3	
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Total = 128