Name:

Key:

Done
In Progress
Possible based on prerequisites

2016-2017 Ceramic Engineering Curriculum

This chart was prepared by Freshman Engineering using the 2016-2017 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	
			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	*Hum/Soc Sci Requirement-English*	English	1120	Exposition and Argumentation		3	
	FEP	*Hum/Soc Sci Elective - History*	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	
								16
Semester 2			Chem	1320	General Chemistry II	Prerequisites: Chem 1310 with a grade of "C" or better and Chem 1319.	3	
			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	*Hum/Soc Sci Elective - Econ*	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	
								17
Semester 3			Cer Eng	2110	Atomic Structure of Crystalline Ceramics		3	
			Cer Eng	2210	Ceramics in the Modern World		2	
			Cer Eng	2315	Ceramic Materials Laboratory I-Characterization of Materials	Prerequisite: Sophomore standing.	2	
			Math	2222	Calculus with Analytic Geometry III	Prerequisites: Math 1215 or Math 1221 with a grade of "C" or better.	4	
			Physics	2135	Engineering Physics II	Prerequisites: Physics 1135 or Physics 1111, Math 1221 or Math 1215.	4	
								15
Semester 4			Cer Eng	2120	Introduction to Glass Science and Technology	Prerequisite: "C" or better grade in Cer Eng 2110.	3	
			Cer Eng	2325	Ceramic Materials Laboratory II Glass and Ceramic Processing	Prerequisite: "C" or better grade in Cer Eng 2315.	2	
			Cer Eng	3230	Thermodynamics of Materials	Prerequisite: "C" or better grade in either Met Eng 1210 or Chem 1320.	3	
		Math 3304 or Stat Elective	various	one of these	All ceramic engineering students must either take MATH 3304 and one statistics course (3000-level or higher) or an introductory statistics course (3000-level) plus an advanced statistics elective (ECON 2300, ENG MGT 5410, ENG MGT 5614, ENG MGT 5713, ENG MGT 5414, ENG MGT 5714, STAT 5346, and STAT 5756).	Prerequisites vary.	3	
		Hum/Soc Sci Elective	various	one of these	*(FEP)* Course chosen from the *Approved List of Humanities and Social Science Courses for Engineering Degrees* at ugs.mst.edu.	Prerequisites vary.	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	
								17
Semester 5			Cer Eng	3315	Ceramic Processing Lab I	Prerequisite: "C" or better grade in Cer Eng 2325.	2	
			Cer Eng	3220	Phase Equilibria	Prerequisite: "C" or better grade in Chem 1320.	3	
			Civ Eng	2210	Mechanics of Materials	Prerequisite: Civ Eng 2200 with grade of "C" or better.	3	
			Cer Eng	3210	Thermal Processes in Ceramics		3	
		Hum/Soc Sci Elective	various	one of these	*(FEP)* Course chosen from the *Approved List of Humanities and Social Science Courses for Engineering Degrees* at ugs.mst.edu.	Prerequisites vary.	3	
								14

Semester 6			Cer Eng	3325	Ceramic Processing Lab II	Prerequisite: "C" or better grade in Cer Eng 3315.	2	
			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	
			Physics	2305	Introduction to Modern Physics	Prerequisites: Math 2222 and Physics 2135 or 2111.	3	
		Hum/Soc Sci Elective - Upper Level	various	one of these	*(FEP)* Course, chosen from the Approved List of Humanities and Social Science Courses for Engineering Degrees at ugs.mst.edu, at the 2000-level or above which requires as a prerequisite the successful completion of a lower level humanities or social sciences course. Foreign language courses numbered 1180 will be considered to satisfy this requirement. Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the 4000 level.	Prerequisites vary.	3	
		Technical Elective	various	one of these	Technical electives must be selected from upper level engineering and science courses with the advisor's approval.	Prerequisites vary.	2	
		Advanced Chemistry Elective	Chem	one of these	1. Chem 2210 Organic Chemistry I 2. Chem 2310 Inorganic Chemistry I 3. Chem 3410 Chemical Thermodynamics I 4. Chem 4310 Selected Topics In Inorganic Chemistry 5. Chem 3420 Introduction To Quantum Chemistry	1. Prerequisites: Chem 1310, 1319, 1320; or Chem 1351. 2. 3. Prerequisites: Physics 1111 or Physics 1135; accompanied or preceded by either Math 1215 or Math 1221. 4. 5. Prerequisites: Physics 2135 or Physics 2111; preceded or accompanied by Math 2222.	3	
								16
Semester 7			Cer 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 Met Eng 4096).	3	
			Cer Eng	4310	Ceramic Processing	Prerequisite: Senior standing.	3	
			Cer Eng	4250	Thermal Properties of Ceramics	Prerequisite: Senior Standing	3	
			Eng Mgt	1210	Economic Analysis of Engineering Projects	Prerequisites: Math 1214.	2	
		Technical Elective	various	one of these	Technical electives must be selected from upper level engineering and science courses with the advisor's approval.	Prerequisites vary.	3	

		Hum/Soc Sci Elective - Upper Level	various	one of these	*(FEP)* Course, chosen from the Approved List of Humanities and Social Science Courses for Engineering Degrees at ugs.mst.edu, at the 2000-level or above which requires as a prerequisite the successful completion of a lower level humanities or social sciences course. Foreign language courses numbered 1180 will be considered to satisfy this requirement. Students may receive humanities credit for foreign language courses in their native tongue only if the course is at the 4000 level.	Prerequisites vary.	3	
								17
Semester 8			Cer Eng	4097	Materials Senior Design II	Prerequisite: "C" or better in either Cer Eng 4096 or Met Eng 4096. (Co-listed with Met Eng 4097).	3	
			Cer Eng	4220	Mechanical Properties of Ceramics	Prerequisite: "C" or better grade in Civ Eng 2210.	4	
			Cer Eng	4240	Electrical Properties of Ceramics	Prerequisite: "C" or better in Physics 2305.	3	
		Statistics Elective	various	one of these	All ceramic engineering students must either take MATH 3304 and one statistics course (3000-level or higher) or an introductory statistics course (3000-level) plus an advanced statistics elective (ECON 2300, ENG MGT 5410, ENG MGT 5614, ENG MGT 5713, ENG MGT 5414, ENG MGT 5714, STAT 5346, and STAT 5756).	Prerequisites vary.	3	
		Technical Elective	various	one of these	Technical electives must be selected from upper level engineering and science courses with the advisor's approval.	Prerequisites vary.	3	
								16
							Total =	**128**