Name:

Key:

Done
In Progress
Possible based on prerequisites

2017-2018 Nuclear 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	*Freshman Chemistry Requirement*	Chem	one of these	1. Chem 1310 General Chemistry I and 2. Chem 1319 General Chemistry Lab *or* 3. Chem 1351 Accelerated General Chemistry and	1. Prerequisite: Entrance requirements. 2. Prerequisite: Preceded or accompanied by both Chem 1310 and Chem 1100. 3. Prerequisite: Preceded or accompanied by Chem 1100 or an equivalent training program approved by S&T.	5	
	FEP	*Hum/Soc Sci Requirement-English*	English	1120	Exposition and Argumentation		3	
	FEP		Fr Eng	1100	Study & Careers in Engineering		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	
			Nuc Eng	1105	Nuclear Technology Applications	Transfer students are exempt	1	
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Semester 2		*Hum/Soc Sci Elective*	various	one of these	Course chosen from Requirements for Humanities and Social Sciences Courses for Engineering Degrees at ugs.mst.edu.	Prerequisites vary.	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	
	FEP		Physics	1135	Engineering Physics I	Prerequisite: Math 1208 or 1214.	4	
	FEP		Mech Eng	1720	Introduction to Engineering Design		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	
								17
Semester 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	
		Programming Elective - Lecture	Comp Sci	one of these	1. ~~Comp Sci 1970 Basic Scientific Programming~~ 2. Comp Sci 1971 Introduction to Programming Methodology 3. Comp Sci 1972 Introduction to MATLAB Programming 4. Comp Sci 1570 Introduction to Programming *(note: 1 more credit)*	1. Prerequisite: Entrance requirements. 2. 3. Prerequisite: Accompanied by Comp Sci 1982 and a "C" or better grade in either Math 1208 or Math 1214. 4. Prerequisite: Accompanied by Comp Sci 1580	2	
		Programming Elective - Lab	Comp Sci	one of these	~~1. Comp Sci 1980 Computer Programming Laboratory~~ 2. Comp Sci 1981 Programming Methodology Laboratory 3. Comp Sci 1982 MATLAB Programming Laboratory 4. Comp Sci 1580 Introduction to Programming Laboratory	1. Prerequisite: Accompanied by Comp Sci 1970. 2. Prerequisite: Accompanied by Computer Science 1971. 3. Prerequisite: Accompanied by Computer Science 1972. 4. Prerequisite: Accompanied by Comp Sci 1570.	1	
			Math	2222	Calculus with Analytic Geometry III	Prerequisites: Math 1215 or Math 1221 with a grade of "C" or better.	4	
			Nuc Eng	2105	Introduction to Nuclear Engineering	Prerequisite: Math 1215 or Math 1221.	2	
			Physics	2135	Engineering Physics II	Prerequisites: Physics 1135 or Physics 1111, Math 1221 or Math 1215.	4	
								16

Semester 4		*Statistics Elective*	Stat	one of these	1. Stat 3111 Statistical Tools For Decision Making 2. Stat 3113 Applied Engineering Statistics 3. Stat 3115 Engineering Statistics 4. Stat 3117 Introduction to Probability and Statistics	1. Prerequisite: Math 1208 or 1212 or 1214 with a grade of "C" or better. 2. Prerequisite: Math 1215 or 1221 with a grade of "C" or better. 3. Prerequisite: Math 1215 or 1221 with a grade of "C" or better. 4. Prerequisite: Math 2222 with a grade of "C" or better.	3	
	FEP	*Hum/Soc Sci Elective - Econ*	Econ	one of these	1. Econ 1100 Principles of Microeconomics 2. Econ 1200 Principles of Macroeconomics		3	
			Nuc Eng	2406	Reactor Operations I	Prerequisites: Math 1214 or Math 1208; preceded or accompanied by Nuc Eng 1105.	1	
			Civ Eng	2210	Mechanics of Materials	Prerequisite: Civ Eng 2200 with grade of "C" or better.	3	
			Math	3304	Elementary Differential Equations	Prerequisite: Math 2222 with a grade of "C" or better.	3	
			Physics	2305	Introduction to Modern Physics	Prerequisites: Math 2222 and Physics 2135 or 2111.	3	
								16
Semester 5		*Hum/Soc Sci Elective*	various	one of these	Course chosen from Requirements for Humanities and Social Sciences Courses for Engineering Degrees at ugs.mst.edu.	Prerequisites vary.	3	
		Advanced Math/Stat/Comp Sci Elective	various	one of these	1. Comp Sci 3200 Introduction to Numerical Methods 2. any 3000 level Math 3. any 5000 level Stat	1. Program competency and a "C" or better grade in either Math 1215 or Math 1221. 2. Prerequisites vary. 3. Prerequisites vary.	3	
			Met Eng	2110	Metallurgy for Engineers	Prerequisite: Preceded or accompanied by Chem 1310, prior or concurrent.	3	
			Nuc Eng	3205	Fundamentals Of Nuclear Engineering	Prerequisite: Physics 2305 or Nuc Eng 3103; Math 3304.	3	
			Nuc Eng	3221	Reactor Fluid Mechanics	Prerequisites: Math 3304, Junior standing.	3	
								15
Semester 6			English	one of these	1. English 1160 Writing And Research 2. English 3560 Technical Writing	1. Prerequisite: English 1120. 2. Prerequisites: English 1120 and second-semester junior standing.	3	
			Nuc Eng	4312	Nuclear Radiation Measurements and Spectroscopy	Prerequisite: Nuc Eng 3205.	3	
			Nuc Eng	3223	Reactor Heat Transfer	Prerequisite: Nuc Eng 3221.	3	
			Nuc Eng	4203	Reactor Physics I	Prerequisite: Nuc Eng 3205.	3	
			Nuc Eng	4229	Nuclear Power Plant Systems	Prerequisites: Nuc Eng 3205 and accompanied or preceded by Nuc Eng 3223.	3	
		Technical Elective I	various	one of these	Technical elective chosen from any 3000- or 4000-level math, science, or engineering course as approved by the student's advisor.	Prerequisites vary.	3	
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Semester 7		*Hum/Soc Sci Elective*	various	one of these	Course chosen from Requirements for Humanities and Social Sciences Courses for Engineering Degrees at ugs.mst.edu.	Prerequisites vary.	3	
			Nuc Eng	4428	Reactor Laboratory I	Prerequisites: Nuc Eng 4312, 3205.	2	
			Nuc Eng	4207	Nuclear Fuel Cycle	Prerequisite: Nuc Eng 3205.	3	
		Math Elective	Math	one of these	Math elective chosen from any 4000-level math course as approved by the student's advisor.	Prerequisites vary.	3	
			Nuc Eng	4496	Nuclear System Design I	Prerequisites: Nuc Eng 3223, 4203, 4229, preceded or accompanied by Nuc Eng 4241.	1	
			Nuc Eng	4241	Nuclear Materials I	Prerequisites: Civ Eng 2210; Nuc Eng 3205; Nuc Eng 3223; Met Eng 2110. (Co-listed with Met Eng 5170).	3	
								15
Semester 8		*Hum/Soc Sci Elective - Upper Level*	various	one of these	Course chosen from Requirements for Humanities and Social Sciences Courses for Engineering Degrees at ugs.mst.edu. Must be at the 2000 level or above and have as a prerequisite one of the HSS courses already taken.	Prerequisites vary.	3	
		Technical Elective II	various	one of these	Technical elective chosen from any 4000-level math, science, or engineering course as approved by the student's advisor.	Prerequisites vary.	3	
		Free Elective	various	one of these	Courses which do not count towards this requirement are remedial courses such as algebra and trigonometry, physical education courses, extra credits in required courses, and basic Air Force and Army ROTC courses (courses taught in the first two years of the ROTC program).	Prerequisites vary.	3	
		Free Elective	various	one of these	Courses which do not count towards this requirement are remedial courses such as algebra and trigonometry, physical education courses, extra credits in required courses, and basic Air Force and Army ROTC courses (courses taught in the first two years of the ROTC program).	Prerequisites vary.	3	
			Nuc Eng	4438	Reactor Laboratory II	Prerequisite: Nuc Eng 4428.	2	
			Nuc Eng	4497	Nuclear System Design II	Prerequisite: Nuc Eng 4496.	3	
								17
							Total =	**128**