

Name:

Key:

Done
In Progress
Possible based on prerequisites

2016-2017 Computer 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		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		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	<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	
	FEP	<i>Hum/Soc Sci Requirement-English</i>	English	1120	Exposition and Argumentation		3	

Semester 2	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	
	FEP		Physics	various	1. Physics 1135 Engineering Physics I or 2. Physics 1111 General Physics and 2a. Physics 1119 General Physics Laboratory	1. Prerequisite: Math 1208 or 1214. 2. Prerequisite: Preceded by Math 1208 or Math 1214. 2a. Prerequisite: Preceded or accompanied by either Physics 1111 or Physics 1145.	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	
		<i>Hum/Soc Sci Elective</i>	various	one of these	(FEP) Course chosen from the <i>Approved List of Humanities and Social Science Courses for Engineering Degrees</i> at <a href="http://ugs.mst.edu">ugs.mst.edu</a> .	Prerequisites vary.	3	

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Semester 3			Elec Eng	2100	Circuits I	Prerequisites: Math 1215 (or 1221) with a grade of "C" or better. Students should enroll in Elec Eng 2100 and Elec Eng 2101 simultaneously.	3	
			Elec Eng	2101	Circuits Analysis Laboratory I	Prerequisite: Preceded or accompanied by Elec Eng 2100. A student who drops Elec Eng 2100 must also drop Elec Eng 2101.	1	
			Math	2222	Calculus with Analytic Geometry III	Prerequisites: Math 1215 or Math 1221 with a grade of "C" or better.	4	
			Comp Sci	1570	Introduction to Programming	Prerequisite: Accompanied by Comp Sci 1580.	3	
			Comp Sci	1580	Introduction to Programming Laboratory	Prerequisite: Accompanied by Comp Sci 1570.	1	
			Physics	one of these	1. Physics 2135 Engineering Physics II or 2. Physics 2111 General Physics II 2a. Physics 2119 General Physics Laboratory	1. Prerequisites: Physics 1135, Math 1221 or Math 1215. 2. Prerequisites: Preceded by Physics 1111 or Physics 1135 and preceded or accompanied by Math 1221 or Math 1215. 2a. Prerequisite: Preceded or accompanied by either Physics 2111 or Physics 2145.	4	

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Semester 4		Comp Eng	2210	Introduction to Digital Logic	Prerequisite: Sophomore standing. Comp Eng 2211 is also a co-requisite for Comp Eng and Elec Eng majors.	3	
		Comp Eng	2211	Computer Engineering Laboratory	Prerequisite: Preceded or accompanied by Comp Eng 2210.	1	
		Elec Eng	2120	Circuits II	Prerequisites: Elec Eng 2100 and Math 2222 each with grade of "C" or better; passing the Elec Eng Advancement Exam I.	3	
		Math	3304	Elementary Differential Equations	Prerequisite: Math 2222 with a grade of "C" or better.	3	
		Comp Sci	1510	Data Structures	Prerequisite: Grade of "C" or better in Comp Sci 1570.	3	
		Comp Sci	1200	Discrete Mathematics for Computer Science	Prerequisite: A "C" or better grade in Comp Sci 1570.	3	

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Semester 5		Comp Eng	3110	Computer Organization and Design	Prerequisites: COMP ENG 2210; preceded or accompanied by COMP ENG 3150.	3		
		Comp Eng	3150	Introduction to Microcontrollers and Embedded System Design	Prerequisites: COMP ENG 2210 and COMP SCI 1570 (or programming equivalent) each with grade of "C" or better.	3		
		Comp Eng	3151	Digital Engineering Lab II	Prerequisites: Comp Eng 2210, Comp Eng 2211, and Comp Sci 1570 (or programming equivalent) each with grade of "C" or better. Preceded or accompanied by Comp Eng 3150.	1		
		Elec Eng	2200	Introduction to Electronic Devices	Prerequisites: Elec Eng 2100, Elec Eng 2101, and Physics 2135 each with grade of "C" or better; passing the Elec Eng Advancement Exam I. Students should enroll in Elec Eng 2200 and Elec Eng 2201 simultaneously.	3		
		Elec Eng	2201	Electronic Devices Laboratory	Prerequisites: Elec Eng 2100, Elec Eng 2101, and Physics 2135 each with grade of "C" or better; passing the Elec Eng Advancement Exam I. Preceded or accompanied by Elec Eng 2200.	1		
		<i>Advanced Math/Stat Elective</i>	various	one of these	Students must take one of the following courses: MATH 3103, MATH 3108, MATH 3109, MATH 5302, MATH 5603, MATH 5105, MATH 5106, MATH 5107, MATH 5108, MATH 4209, MATH 4211, MATH 5215, MATH 5222, MATH 5325, MATH 4530, MATH 5737, MATH 5351, MATH 5154, MATH 4096, MATH 5483, MATH 5585, STAT 5644, STAT 5346, STAT 5353.	Prerequisites vary.	3	
		<i>Hum/Soc Sci Elective - Communications</i>	various	one of these	1. SP&M S Principles of Speech 2. Mil Army 4250 and 4500 or Mil Air 4110 and 4120.	1. Prerequisite: Entrance requirements. 2. See catalog.	3	

Semester 6	<i>Technical Elective A</i>	various	one of these	Comp Eng Elective A must be a 4000 or 5000-level Comp Eng, Elec Eng, or Comp Sci course with at least a 3-hour lecture component. This normally includes all Comp Eng and Elec Eng 4000 or 5000-level courses except Comp Eng or Elec Eng 4000, 4099, 4096, and 4097 or Comp Sci 5000, 4010, 5600, and 4099.	Prerequisites vary.	3	
		Elec Eng	3410	Digital Signal Processing	Prerequisites: ELEC ENG 2120 with a grade of "C" or better; passing the ELEC ENG Advancement Exam II.	3	
		Comp Sci	3800	Introduction to Operating Systems	Prerequisites: A "C" or better grade in all of Comp Sci 1510, Comp Sci 1200, and Comp Eng 3150.	3	
	<i>Statistics Elective</i>	Stat	one of these	1. Stat 3117 Introduction to Probability and Statistics 2. Stat 3115 Engineering Statistics 3. Stat 5643 Probability And Statistics	1. Prerequisite: Math 2222 with a grade of "C" or better. 2. Prerequisite: Math 1215 or 1221 with a grade of "C" or better. 3. Prerequisite: Math 2222.	3	
	<i>Hum/Soc Sci Elective - Communications</i>	English	one of these	1. English 3560 Technical Writing 2. English 1160 Writing And Research	1. Prerequisites: English 1120 and second-semester junior standing. 2. Prerequisite: English 1120.	3	

Semester 7	<i>Technical Elective</i>	various	one of these	1. Comp Eng 5410 Introduction to Computer Communication Networks 2. Comp Sci 5600 Computer Networks	1. Prerequisites: Comp Eng 3150 or computer hardware competency and Stat 3117 or Stat 3115 or Stat 5643 or equivalent. 2. Prerequisite: A "C" or better grade in Comp Sci 3800.	3
	<i>Technical Elective C</i>	various	one of these	Comp Eng Electives C, D, and E must be 3000, 4000 or 5000-level courses from an approved list of science, mathematics, and engineering courses. In particular, this list includes all 3000, 4000 or 5000-level Comp Eng, Elec Eng and Comp Sci courses except required courses in Comp Eng, Elec Eng, and Comp Sci and except Comp Eng 4096 and 4097, Elec Eng 2800, 1002, 1003, 4096, and 4097, and Comp Sci 2002 and 4600/5600). Comp Eng Electives C, D, and E must include at least six hours of engineering or computer science courses.  COMP ENG Electives C, D, and E cannot include more than three hours of COMP ENG 4000, COMP ENG 4099, ELEC ENG 4000, or ELEC ENG 4099.	Prerequisites vary.	3
		Comp Eng	4096	Computer Engineering Senior Project I	Prerequisites: Comp Eng 2210, either Econ 1100 or Econ 1200, either English 3560 or English 1160, Comp Eng 3150, Comp Eng 3151, Comp Eng 3110, and Elec Eng 2200.	1
	<i>Hum/Soc Sci Elective</i>	various	one of these	(FEP) Course chosen from the <i>Approved List of Humanities and Social Science Courses for Engineering Degrees</i> at <a href="http://ugs.mst.edu">ugs.mst.edu</a> .	Prerequisites vary.	3
	<i>Engineering Science Elective</i>	various	one of these	Students must take MECH ENG 2340, MECH ENG 2519, MECH ENG 2527, PHYSICS 2311, PHYSICS 2401, CHEM 2210, BIO SCI 2213, or BIO SCI 2223. The following pairs of course are substitutions for any single course: CIV ENG 2200 and MECH ENG 2350, PHYSICS 2305 and PHYSICS 4311, PHYSICS 2305 and CER ENG 4240, or PHYSICS 2305 and NUC ENG 3205.	Prerequisites vary.	3
	<i>Technical Elective B</i>	various	one of these	Comp Eng Elective B must be a 4000 or 5000 level COMP ENG course with at least a 3-hour lecture component, excluding COMP ENG 4096 and COMP ENG 4097.	Prerequisites vary.	3

Semester 8	<i>Technical Elective D</i>	various	one of these	<p>Comp Eng Electives C, D, and E must be 3000, 4000 or 5000-level courses from an approved list of science, mathematics, and engineering courses. In particular, this list includes all 3000, 4000 or 5000-level Comp Eng, Elec Eng and Comp Sci courses except required courses in Comp Eng, Elec Eng, and Comp Sci and except Comp Eng 4096 and 4097, Elec Eng 2800, 1002, 1003, 4096, and 4097, and Comp Sci 2002 and 4600/5600). Comp Eng Electives C, D, and E must include at least six hours of engineering or computer science courses.</p> <p>COMP ENG Electives C, D, and E cannot include more than three hours of COMP ENG 4000, COMP ENG 4099, ELEC ENG 4000, or ELEC ENG 4099.</p>	Prerequisites vary.	3
	<i>Technical Elective E</i>	various	various	<p>Comp Eng Electives C, D, and E must be 3000, 4000 or 5000-level courses from an approved list of science, mathematics, and engineering courses. In particular, this list includes all 3000, 4000 or 5000-level Comp Eng, Elec Eng and Comp Sci courses except required courses in Comp Eng, Elec Eng, and Comp Sci and except Comp Eng 4096 and 4097, Elec Eng 2800, 1002, 1003, 4096, and 4097, and Comp Sci 2002 and 4600/5600). Comp Eng Electives C, D, and E must include at least six hours of engineering or computer science courses.</p> <p>COMP ENG Electives C, D, and E cannot include more than three hours of COMP ENG 4000, COMP ENG 4099, ELEC ENG 4000, or ELEC ENG 4099.</p>	Prerequisites vary.	3
		Comp Eng	4097	Computer Engineering Senior Project II	Prerequisite: Comp Eng 4096 with a grade of "C" or better, Stat 3117, Sp&M S 1185.	3
	<i>Hum/Soc Sci Elective - Upper Level</i>	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
	<i>Free Elective</i>	various	one of these	Students are required to take at least three credit hours. Elec Eng 2800 level, ELEC ENG 4096, ELEC ENG 4097, COMP ENG 4096 and COMP ENG 4097 may not be used for free electives. No more than one credit hour of COMP ENG 3002 or ELEC ENG 3002 may be applied to the BS degree for free electives.	Prerequisites vary.	3

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Total = 128