

McKelvey School of Engineering
BS in Electrical Engineering Curriculum¹
2025-2026 Catalog Year, 3/24/2025

FIRST YEAR

Units	Fall Semester	Units	Spring Semester
3	Math 1520 Calculus II [Math 1510] ⁵ (<i>Math 132</i>)	3	Math 2130 Calculus III [Math 1520] ⁵ (<i>Math 233</i>)
3	Phys 1740 or 1760 Physics I [Math 1520] ⁶ (<i>Phys 191 or 193</i>)	3	Phys 1742 or 1680 Physics II [Math 1520, Phys 1740 or 1760] ⁵ (<i>Phys 192 or 194</i>)
1	Phys 1741 Physics I Lab (<i>Phys 191L</i>)	1	Phys 1743 Physics II Lab (<i>Phys 192L</i>)
4	ESE 1050 Intro to Electrical and Systems Engineering (<i>ESE 105</i>)	3	ESE 2050 Intro to Engineering Design [ESE 1050, CSE 1301] ⁵ (<i>ESE 205</i>)
3	CSE 1301 Intro to Computer Science (<i>CSE 131</i>)	3	ESE 2170 Differential Equations and Dynamical Systems Modeling in Engineering [ESE 1050] ⁵ (<i>ESE 217</i>)
		3	H&SS Elective ²
14	Semester Total	16	Semester Total

SECOND YEAR

Units	Fall Semester	Units	Spring Semester
3	ESE 2180 Linear Algebra and Component Analysis [ESE 1050] ⁵ (<i>ESE 2180</i>)	3	ESE 2190 Vector Calculus and Dynamics [ESE 2180, (ESE 2170 or MATH 2500)] ⁵
3	CSE 2600 Intro to Digital Logic and Computer Design [CSE 1301] ⁵ (<i>CSE 260M</i>)	3	ESE 3260 Probability and Statistics for Engineering [Math 2130] ⁵ (<i>ESE 326</i>)
3	Chem 1601 or 1701 Chemistry ⁷ (<i>Chem 105 or 111A</i>)	3	ESE 3510 Signals and Systems ⁹ (<i>ESE 351</i>)
2	Chem 1751 Lab [Chem 1601 or 1701] ⁶ (<i>Chem 151</i>)	3	ESE 2320 Intro to Electronic Circuits [ESE 230] ⁵ (<i>ESE 232</i>)
4	ESE 2300 Intro to Circuits [Phys 1742 or 1680] ⁵ [ESE 2170 or Math 2500] ⁶ (<i>ESE 230</i>)	3	H&SS Elective ²
15	Semester Total	15	Semester Total

THIRD YEAR

Units	Fall Semester	Units	Spring Semester
3	Electrical Engineering Laboratory ³	3	Electrical Engineering Laboratory ³
3	Engineering and science breadth elective ⁸	3	Engr 3100 Technical Writing [Junior] ⁶ (<i>Engr 310</i>)
3	ESE 3300 Engr Electromagnetics Principles [Phys 1742, ESE 2190] ⁵ (<i>ESE 330</i>)	6	Electrical Engineering electives with engineering topics units ¹⁰
3	Electrical Engineering electives with engineering topics units ¹⁰	3	H&SS Elective ²
3	H&SS Elective ²		
15	Semester Total	15	Semester Total

FOURTH YEAR

Units	Fall Semester	Units	Spring Semester
3	Free electives ⁴	3	ESE 4970 Electrical Engineering Capstone Design Projects (<i>ESE 498</i>)
3	H&SS Elective ²	3	H&SS Elective ²
1	Engr 4501 Engineering Ethics and Sustainability	5	Free electives ⁴
6	Electrical Engineering electives with engineering topics units ¹⁰	3	Engineering and science breadth elective ⁸
3	Engineering and science breadth elective ⁸		
16	Semester Total	14	Semester Total

Bolded courses are typically taught fall and spring semesters.

¹ A minimum of 120 units (an average course load of 15 units per semester) are required for the BSEE degree.

² A minimum of 18 units of H&SS are required

³ Two upper-level lab courses (6 units) from following list: ESE 3310, ESE 3301, ESE 4350, ESE 4480, ESE 4481, ESE 4650, ESE488. Must include one of ESE 3310, ESE 3301, ESE 4650, ESE 4880.

⁴ Free Elective: Any course from Engineering or other WU schools

⁵ Pre-requisite

⁶ Co-requisite

⁷ Chem 1701 recommended, but Chem 1601 accepted

⁸ 9 units in engineering or science outside EE required. Choose from the following areas: BME, EECE, CS, MechE, econ, math, phys, biol, chem, E&P sci, pre-med

⁹ Prerequisites: (ESE 2170 or Math 2500)and (ESE 1050 or ESE 2300)

¹⁰ At least 15 units of elective ESE courses in electrical engineering subjects. There are 45 topics units in the entire course sequence for the BSEE. For more information, visit [here](#).