

Bachelor of Science in Applied Science (Electrical Engineering) (ESE)

Students who do not plan to pursue a career in electrical engineering but who seek a strong foundation in the principles of electrical engineering may choose the Bachelor of Science in Applied Science (Electrical Engineering). The program ensures that the student learns the foundations of electrical engineering through breadth requirements. In addition, there is flexibility in selecting upper-level courses to meet the student's individual objectives. This program also may be attractive for students interested in obtaining multiple degrees, because the requirements are less strict than for the BSEE degree. Historically, students have matched a degree in electrical engineering with degrees in other engineering disciplines, in the natural sciences, in music, in history and in business; other combinations are possible. This also may be an attractive option for students planning graduate studies in a variety of disciplines, including medicine, law or business. This applied science degree is not accredited by the Engineering Accreditation Commission of ABET.

The degree requirements include the residency and general requirements of the university and the McKelvey School of Engineering as well as the following:

Code	Title	Units
<i>Required courses in Electrical Engineering</i>		29
ESE 1050	Introduction to Electrical and Systems Engineering	4
ESE 2180	Linear Algebra and Component Analysis	3
ESE 2190	Vector Calculus and Dynamics of Physical Systems	3
ESE 2300	Introduction to Electrical and Electronic Circuits	4
ESE 2320	Introduction to Electronic Circuits	3
CSE 2600	Introduction to Digital Logic and Computer Design	3
ESE 3260	Probability and Statistics for Engineering	3
ESE 3300	Engineering Electromagnetics Principles	3
ESE 3510	Signals and Systems	3
Upper-level elective courses in electrical engineering (ESE 2050, ESE 2992, ESE 3300–3990, ESE 4100–4260, ESE 4290–4999, ESE 5030–5890)		18
Free electives		28
Mathematics, science and engineering electives		24
Computer Science requirement (CSE 1301)		3
Humanities and social sciences electives		18
Total		120

¹ No more than 6 units of the combined units of ESE 2992, ESE 4991, ESE 4992, and ESE 4999 may be applied.