

# Bachelor of Science in Applied Science (Systems Science & Engineering)

This program provides the student with the opportunity to prepare their academic career with maximum flexibility but also with enough organization to ensure substantive, consistent training in systems science methodology and outlook. This program is recommended if students wish to pursue a program that does not follow conventional lines. It is an especially advantageous degree for a double major in association with mathematics, physics, economics or another engineering discipline. The program can be planned to provide a desirable background for graduate work in biological, medical or management fields. This applied science degree is not accredited by the Engineering Accreditation Commission of ABET (<http://www.abet.org>).

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

Courses	Units
Humanities and social sciences electives	18
Mathematics, science and engineering electives	24
Required courses: ESE 105, ESE 230, ESE 351, ESE 403 or ESE 415, and ESE 441	15
Computer Science requirement (CSE 131)	3
Systems science and engineering electives (ESE 205, ESE 400–428, ESE 437, ESE 440–459, ESE 470–499, ESE 502–529, ESE 540–559, and SWCD 5660)	18
Free electives	42
<b>Total</b>	<b>120</b>

The program must include at least 48 units at the 300 level or higher.

The above program assumes completion of the following courses:

- Math 132 Calculus II
- Math 233 Calculus III
- Math 217 Differential Equations
- Physics 191 Physics I
- Physics 191L Physics I Laboratory
- Physics 192 Physics II

- Physics 192L Physics II Laboratory
- ESE 318 Engineering Mathematics A
- ESE 319 Engineering Mathematics B
- ESE 326 Probability and Statistics for Engineering