

Bachelor of Science in Engineering Sciences Program Goals and Student Learning Outcomes

Goal 1: Provide students with fundamental knowledge of mathematics, natural sciences and computer science to solve problems.

Students will be able to:

- 1.1 Identify fundamental mathematical and scientific concepts to define and model a wide-variety of engineering problems.
- 1.2 Identify and explain the theoretical and practical significance of computer science and its application to engineering problems.

Goal 2: Equip students with the engineering and analytical tools and applications to solve a wide range of real-life problems.

Students will be able to:

- 2.1 Utilize appropriate software and suitable engineering tools for problem solving.
- 2.2. Conduct properly posed scientific and engineering experiments.
- 2.3. Develop a multidisciplinary system, product, or process to meet design requirements.
- 2.4. Collect and interpret relevant data.

Goal 3: Prepare students for careers and advanced studies in engineering and related fields.

Students will be able to:

- 3.1. Pursue graduate studies or gain employment suited to their expertise and interests.
- 3.2. Demonstrate professional and ethical responsibility and/or contextual understanding of environmental and societal consequences of technological solutions.
- 3.3. Formulate research questions, critically assess sources, and apply appropriate investigative techniques.

University-Wide / General Education

Goal 4: Develop articulate, conscientious leaders and problem solvers who are committed to contributing to their fields and society.

Students will be able to:

- 4.1 Produce and deliver written and oral presentations, and communicate with specialists and non-specialists using appropriate media and technology.
- 4.2 Think critically and creatively, conceptualizing real-world problems from different perspectives.
- 4.3 Work productively in diverse teams, and solve problems collaboratively.

Goal 5: Provide students with a broad foundation of knowledge and skills and cultivate a commitment to life-long learning.

Students will be able to:

- 5.1. Use common software and information technology to pursue inquiry relevant to their academic and professional fields, and personal interests.
- 5.2. Weigh evidence and arguments, and appreciate and engage in diverse modes of inquiry characteristic of historical, cultural, political, economic, and quantitative disciplines.
- 5.3. Properly document and synthesize existing scholarship and data, keep current with developments, conduct independent research, and discover and learn new material on their own.