



THE UNIVERSITY OF TEXAS
PERMIAN BASIN

College of Engineering
Department of Electrical Engineering

Mission,

Programs Educational Objectives (PEOs),

And

Student Learning Outcomes (SLOs)

October 27, 2022

1. UTPB College of Engineering Vision and Mission

Vision

We envision a future in which engineers from the College of Engineering at The University of Texas Permian Basin shape how the world is built—developing industry innovations, leading teams of engineers in new, effective ways, and creating healthy, safe, and modern communities.

Mission

The mission of the UT Permian Basin College of Engineering is to:

- Offer high-quality undergraduate and graduate degrees that evolve with the economy.
- Foster the professional success of our students, both before and after graduation.
- Promote our scholars' teaching excellence, industry contributions, research, and service.
- Advance the economic, technological, and energy development of West Texas—and beyond

2. EE Department Mission

The Department of Electrical Engineering (EE) mission is inspired from the missions of the University of Texas Permian Basin and the College of Engineering. It highlights the importance of providing premier educational services. The mission statement reads as follows:

"The mission of the Department of Electrical Engineering is to meet the educational and cultural needs of West Texas-and beyond by providing academic programs and services of the highest quality. The Department contributes to the enhancement of knowledge by innovative teaching and conducting quality research through the use of modern information technologies. It plays a significant role in leading cultural, social and economic development in West Texas and beyond."

3. EE Program Educational Objectives (PEOs)

EE Program Educational Objectives (PEOs) go in line with the goals and objectives of the College and University and will help ensure the fulfillment of the EE Department mission. The EE program is designed to provide the EE graduates with the knowledge and skills needed to succeed in today's workplace and in advanced studies. Next, we list the educational objectives and student learning outcomes for the EE program.

Three to five years after graduation, the graduates are expected to:

1. Contribute to society by successful application of electrical engineering knowledge and skills
2. Pursue life-long learning through advanced professional degrees, graduate studies, and/or professional development
3. Demonstrate professional and intellectual growth as leaders in their profession and/or community

4. Student Learning Outcomes (SLOs)

The desired student learning outcomes of the **Electrical Engineering undergraduate degree program** represent the skills and aptitudes gained by students graduating from this program. These are:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

5. Mapping of Educational Program Outcomes to Program Educational Objectives

The above program outcomes relate directly to student learning outcomes specified by ABET. Table 1 below shows the linkage between the PEOs and SLOs of EE Program.

Table 1-Mapping of PEOs to SLOs for the EE Program

EE PROGRAM EDUCATIONAL OBJECTIVES	MAPPED STUDENT LEARNING OUTCOMES
1. Contribute to society by successful application of electrical engineering knowledge and skills	SLO1 SLO2 SLO6
2. Pursue life-long learning through advanced professional degrees, graduate studies, and/or professional development	SLO2 SLO4
3. Demonstrate professional and intellectual growth as leaders in their profession and/or community	SLO3 SLO5 SLO7