

BE (Mechatronics) Program Mission, Objectives and Outcomes

Mission Statement of Mechatronics Engineering Department

Our goal is to prepare graduates for successful engineering and professional careers and leadership roles with lifelong learning and ethical conduct that will lead them to be engaged good citizens, engineers, and professionals in their community and the world.

Mission Statement of BE (Mechatronics) Program

The BE (Mechatronics) Program has the primary mission of providing a high-quality undergraduate education with:

- i. A curriculum that is that evolves to keep pace with the rapid growth of technology in various areas of Mechatronics engineering.
- ii. A faculty that provides teaching and mentoring both in and out of the classroom.
- iii. Class sizes that encourage student participation.
- iv. Project experiences that build on fundamentals and develop team skills.
- v. Facilities and equipment that is readily available.

The faculty is committed to offer a broad undergraduate experience that will promote professional growth and prepare students for a variety of engineering careers, graduate studies, and continuing education.

Program Objectives

Upon completion of their degree, the SZABIST BE (Mechatronics) graduates will:

1. Have a strong foundation in science and focus in mechanical, electronics, control, software, and computer engineering, and a solid command of the newest technologies.
2. Be able to design, analyze, and test “intelligent” products and processes that incorporate appropriate computing tools, sensors, and actuators.
3. Be able to demonstrate professional interaction and communicate effectively with team members.
4. Be able to work efficiently in multidisciplinary teams.
5. Be prepared for a variety of engineering careers, graduate studies, and continuing education
6. Practice professional and ethical responsibility, and, be aware of the impact of their designs on human-kind and the environment.

Program Outcomes

Mechatronics engineering graduates will be able to:

1. Employ the knowledge of mathematics, science, and engineering.
2. Design and conduct experiments to evaluate the performance of a mechatronics system or component with respect to specifications, as well as to analyze and interpret data.
3. Design mechatronics component, system or process to meet desired needs.
4. Define and solve engineering problems.
5. Use the techniques, skills, and modern mechatronics engineering tools necessary for engineering practice.
6. Function effectively as members of multidisciplinary teams.
7. Communicate technical matters effectively in oral, written, and graphical form.
8. Identify and evaluate ethical ramifications and professional responsibilities in a variety of situations.
9. Discuss the impact of engineering on society, safety, and environment in relation to contemporary issues.
10. Exhibit skills for lifelong learning.

Outcomes versus Objectives

Table 1 graphically shows the relation between Outcomes and Objectives and how achievement of the Program Outcomes supports achievement of the Program Objectives.

Program Objectives	Outcomes									
	1	2	3	4	5	6	7	8	9	10
1	✓			✓	✓		✓			
2	✓	✓	✓	✓	✓					
3						✓	✓			
4						✓	✓	✓	✓	
5	✓	✓	✓	✓	✓		✓	✓		✓
6						✓		✓	✓	

Table 1 Matrix of Program Objectives vs. Outcomes