

Department of Electrical and Instrumentation Engineering

B.E. Electronics (Instrumentation and Control)

Program Educational Objectives

After completion of the course, our graduates are expected to:

1. demonstrate a high degree of technical expertise in Electronics (Instrumentation and Control) Engineering profession with effective communication and management skills.
2. pursue higher education to continue their intellectual development for life-long learning.
3. achieve leadership roles in multidisciplinary teams, thereby serving the society as ethical and conscientious professionals.

Student Outcomes

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
 - 1.1 Ability to identify and formulate problems for electronic instrumentation systems.
 - 1.2 Apply sciences and mathematics to obtain analytical, numerical and statistical solutions.
 - 1.3 Apply knowledge of fundamentals, scientific and/or engineering principles towards solving complex engineering problems using analytical, computational and/or experimental methods.
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
 - 2.1. Design process to satisfy project objective for electronic instrumentation systems and build prototypes, wherever necessary, that meet design specifications.
 - 2.2. Work with real time systems within realistic constraints
 - 2.3. Able to evaluate ethical issues that may occur in professional practice using professional codes of ethics ensuring protection of organization, human safety and wellbeing of society.
3. an ability to communicate effectively with a range of audiences
 - 3.1. Prepare and present variety of documents such as project or laboratory reports and inspection reports with discipline specific standards.
 - 3.2. Able to communicate effectively with peers in well organized and logical manner using adequate technical knowledge to solve engineering problems.
 - 3.3. Able to interact with the people in organizations, industries and/or professional societies in a professional manner to achieve their goals.
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

- 4.1. Recognize the impact of engineering decisions on environment.
- 4.2. Evaluate engineering solutions considering environmental constraints.
- 4.3. Analyze economic tradeoffs in engineering systems
- 4.4. Aware of societal and global changes due to engineering innovations.
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
 - 5.1 Share responsibility and information schedule with others in team.
 - 5.2 Participate in the development and selection of ideas on a team whose members together provide leadership.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
 - 6.1. Identify the constraints, assumptions and models for the experiments.
 - 6.2. Analyze and validate experimental results using appropriate techniques.
 - 6.3. Able to analyze engineering problems and develop systems for engineering applications.
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
 - 7.1 Able to use resources to adopt new technologies not included in curriculum.
 - 7.2 Ability to identify directions for continuing education opportunities.
 - 7.3 Recognize the need to embrace personal responsibility for lifelong learning