

Bachelor of Science in Instrumentation and Control Engineering (BSICE)

Program Educational Objectives

The instrumentation and control engineering alumni three to five years after graduation shall:

1. Be engaged in project planning, material applications, design and installation, operations and/or maintenance in the fields of measurement, signal processing, control and industrial automation.
2. Be well-rounded individuals with strong personal skills (decision making, analytic reasoning, problem solving), professional skills (creative thinking, critical thinking, ethics and responsibilities) and able to work and communicate in team environments.
3. Participate in endeavours that promote career advancement and life-long learning.

Student Outcomes

The following skills, knowledge, and behaviors are expected to be attained by students as they progress through the program:

- a. Ability to apply knowledge of mathematics and science to solve engineering problems.
- b. Ability to design and conduct experiments, as well as to analyze and interpret data.
- c. Ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability, in accordance with standards.
- d. Ability to function on multidisciplinary teams.
- e. Ability to identify, formulate, and solve engineering problems.
- f. Understanding of professional and ethical responsibility.
- g. Ability to communicate effectively.
- h. Broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- i. Recognition of the need for, and an ability to engage in life-long learning.
- j. Knowledge of contemporary issues.
- k. Ability to use techniques, skills, and modern engineering tools necessary for engineering practice.
- l. Knowledge and understanding of engineering and management principles as a member and leader in a team, to manage projects and in multidisciplinary environments.