Bachelor of Science in Industrial Engineering (BSIE)

Program Educational Objectives

The Industrial engineering program shall produce professionals who:

1. Can design and standardize processes, improve procedures, methods and productivity.
2. Can implement effective solutions which successfully integrate man, method, materials, machine, information and technology.
3. Can forecast, organize and plan production schedules and maximize the resources inside an organization.
4. Can design layout and integrate processes and resources.
5. Can communicate and collaborate in individual and team settings and who can handle projects in the feasibility stage up to project completion.
6. Can solve critically and formulate solutions to typical managerial problems using quantitative tools.
7. Can solve quality control problems thru failure mode analysis, six sigma and other QC tools.
8. Can design and innovate products and do research to solve current problems.

Program Outcomes

By the time of graduation, the students of the program shall be able to:

a. An ability to apply knowledge of mathematics, physical and information sciences, and engineering sciences to the practice of industrial engineering.

b. An ability to design and conduct experiments, as well as to analyze and interpret data.

c. An ability to design, build, improve, and install systems or processes which are efficient, effective, as well as robust to meet desired needs within identified constraints.

d. An ability to work effectively in multi-disciplinary and multi-cultural teams.

e. An ability to recognize, formulate, and solve engineering problems.

f. A recognition of professional, social, and ethical responsibility.

g. An ability to effectively communicate orally and in writing using the English language.

h. An understanding of the effects of engineering solutions in a comprehensive context.

i. An ability to engage in life-long learning and an understanding of the need to keep current of the developments in the specific field of specialization.
j. An ability to use the techniques, skills, and engineering tools necessary for engineering and business practice.

k. An ability to perform services in the form of analysis, design, preparation of plans, specifications, estimates, and implementation of work standards, statistical process control systems, production planning and materials control systems, manufacturing and service facilities, operations research models for production and operations, and/or information systems.

l. Understand the impact of professional engineering solutions in societal and environmental contexts, demonstrate knowledge of, and need for sustainable development.

m. Demonstrate knowledge and understanding of engineering and management principles and apply these to one’s work, as a member and leader in a team, to manage projects and in multi-disciplinary environments.