Program Educational Objectives (PEOs)

Department of Industrial Engineering has developed well-rounded educational objectives after deliberations of the stakeholders in number of meetings, trainings, discussion sessions as following:

Graduates of B. Sc. Industrial Engineering have the ability to

1. Serve in industry or academia or operate their own business.
2. Exhibit quest for higher engineering education or continued professional development
3. Demonstrate adherence to ethical practices and community services

Program Learning Outcomes (PLOs)/Graduate Attributes (GAs)

(For batch 8 Intake2013-2014 till batch 19 Intake 2024-2025)

The Department of Industrial Engineering has adopted the twelve PLOs/GAs, defined as minimum outcomes for a graduate in the PEC Manual 2019. The PLOs/GAs are reproduced as under:

GA1 Engineering Knowledge

An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

GA2 Problem Analysis

An ability to identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

GA3 Design / Development of Solutions

An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

GA4 Investigation

An ability to investigate complex engineering problems in a methodical way including literature survey, design and conduct of experiments, analysis and interpretation of experimental data, and synthesis of information to derive valid conclusions.

GA5 Modern Tool Usage

An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex engineering activities, with an understanding of the limitations.

GA6 The Engineer and Society

An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice and solution to complex engineering problems.

GA7 Environment and Sustainability

An ability to understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

GA8 Ethics

Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice.

GA9 Individual and Teamwork

An ability to work effectively, as an individual or in a team, on multifaceted and /or multidisciplinary settings.

GA10 Communication

An ability to communicate effectively, orally as well as in writing, on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

GA11 Project Management

An ability to demonstrate management skills and apply engineering principles to one's own work, as a member and/or leader in a team, to manage projects in a multidisciplinary environment.

GA12 Lifelong Learning

Ability to recognise the significance of continuous learning and pursue it in the context of innovation and technological advancements.

Program Learning Outcomes (PLOs)/Graduate Attribute Profiles (GAs)

(For batch 20 Intake 2025-2026 and onwards)

Graduate attributes (GAs) form a set of individually assessable outcomes that are the components indicative of the graduate's potential to acquire competence to practice at the appropriate level. The graduate attributes are exemplars of the attributes expected from a graduate of an accredited program. Graduate attributes are clear, succinct statements of the expected capability, qualified, if necessary, by a range indication appropriate to the type of program.

GA1 Engineering Knowledge:

Apply knowledge of mathematics, natural science, engineering fundamentals and Engineering specialization to the solution of complex engineering problems.

GA2 Problem Analysis: Identify, formulate, conduct research literature, and analyze complex Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.

GA3 Design/Development of Solutions:

An ability to design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

GA4 Investigation:

Conduct investigation of complex Engineering problems using research-based knowledge and research methods, including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

GA5 Tool Usage:

Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modelling, to complex Engineering problems, with an understanding of the limitations.

GA6 The Engineer and the World:

Analyze and evaluate sustainable development impacts to society, the economy, sustainability, health and safety, legal frameworks, and the environment while solving complex engineering problems.

GA7 Ethics:

Apply ethical principles and commit to professional ethics and norms of engineering practice and adhere to relevant national and international laws. Demonstrate an understanding of the need for diversity and inclusion.

GA8 Individual and Collaborative Team Work:

Function effectively as an individual, and as a member or leader in diverse and inclusive teams and Bachelor of Industrial Engineering Curriculum (2024) 13 in multi-disciplinary, face-to-face, remote and distributed settings.

GA9 Communication:

Communicate effectively and inclusively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, and make effective presentations, taking into account cultural, language, and learning differences.

GA10 Project Management and Finance:

Demonstrate knowledge and understanding of engineering management principles and economic decision making and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments.

GA11 Lifelong Learning:

Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change.