

Key Performance Indicators of the Student Outcomes of Industrial Engineering

SO 1: An ability to identify, formulate, and solve complex engineering problems by applying engineering, science, and math principles.

KPI 1.1. Identifies the components and theoretical principles of a complex problem in Engineering.

KPI 1.2. Formulates and expresses complex problems within the field of Industrial Engineering using mathematical or computational tools.

KPI 1.3. Solves complex problems applying Engineering tools

SO2: An ability to apply engineering design to produce solutions that meet specific needs considering public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

KPI 2.1. Designs, simulates, or implements Industrial Engineering Processes and similar disciplines, to create products or solutions combining the tools of Science and Technology.

KPI 2.2. Evaluates the investment and operating costs of Engineering Projects.

KPI 2.3. Assesses the risks associated with the Industry.

KPI 2.4. Applies criteria for the design and operation of Industrial Processes, considering labor, environmental, and social aspects.

SO3: An ability to communicate effectively with a variety of audiences.

KPI 3.1. Communicates effectively through writing skills.

KPI 3.2. Communicates effectively through oral skills.

KPI 3.3. Communicates effectively through graphic or drawing skills.

KPI 3.4. Communicates effectively unto a wide range of audiences.

SO4: An ability to recognize ethical and professional responsibilities in engineering situations and to make informed judgements, which must consider the impact of engineering solutions in global, economic, environmental and social contexts.

KPI 4.1. Understands the economic impacts of decisions associated with the practice of Engineering.

KPI 4.2. Understands the environmental impacts of Engineering practice.

KPI 4.3. Understands the ethical and social responsibility implications of Engineering practice.

KPI 4.4. Understands the global impact of the problems that Engineering faces.

SO5: An ability to function effectively in a team whose members together provide leadership, create a collaborative and inclusive environment, set goals, plan tasks, and meet objectives.

KPI 5.1. Demonstrates teamwork and leadership skills.

KPI 5.2. Demonstrates ability to collaborate in diverse teams, assuming tasks and responsibilities.

KPI 5.3. Formulates and executes work plans with clear objectives and goals.

SO6: An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

KPI 6.1. Does research in the disciplines associated with Industrial Engineering.

KPI 6.2. Formulates and sets work objectives.

KPI 6.3. Designs and conducts studies and experiments using appropriate tools and methods.

KPI 6.4. Analyzes and interprets results.

SO7: An ability to acquire and apply new knowledge, as required, through appropriate learning strategies.

KPI 7.1. Seeks scientific and technological information.

KPI 7.2. Identifies emerging topics relevant to Industrial Engineering.

KPI 7.3. Applies critical thinking with a capacity for Innovation and the use of Scientific-Technological tools.

KPI 7.4. Autonomously learn Engineering skills.

SO8: An ability to manage and administer human, material and financial resources.

KPI 8.1. Manages financial resources.

KPI 8.2. Manages human resources.

KPI 8.3. Manages material resources.

KPI 8.4. Develops initiatives that create value

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