

Student Outcomes (SOs) & Performance Indicators

Student Outcomes describe the knowledge, skills, and behaviours that students are expected to acquire by the time of graduation. The following seven outcomes are adopted in alignment with ABET Criterion 3. Each outcome is supported by measurable Performance Indicators (PIs) and mapped to the corresponding Programme Educational Objective (PEO).

SO 1

→ PEO1

An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

Performance Indicators:

- 1.1 Identify the principles of engineering, science, and mathematics.
- 1.2 Define engineering problems by invoking appropriate principles from engineering, science, and mathematics.
- 1.3 Apply principles of engineering, science, and mathematics to find solutions for complex engineering problems.

SO 2

→ PEO2

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.

Performance Indicators:

- 2.1 Develop a concise needs statement, list constraints, and specify criteria that distinguish minimum acceptability from preferred performance.
- 2.2 Assess the economic feasibility of engineering solutions and identify and manage risks in product or process design.

SO 3

→ PEO3

An ability to communicate effectively with a range of audiences.

Performance Indicators:

- 3.1 Communicate clearly with diverse audiences by tailoring content and terminology, according to their knowledge and context.

SO 4

→ PEO3 /
PEO2

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.

Performance Indicators:

- 4.1 Demonstrate and uphold ethical and professional responsibilities in engineering practices.
- 4.2 Identify and compare alternative engineering solutions, with consideration of economic, environmental, and societal effects, while addressing competing design requirements.

SO 5

→ PEO3

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.

Performance Indicators:

- 5.1 Clarify and fulfill team roles, integrate member input, and make decisions using objective, evidence-based criteria.
- 5.2 Evaluate team progress and suggest actionable feedback to improve team performance.

SO 6

→ PEO4

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

Performance Indicators:

- 6.1 Develop appropriate laboratory practices and procedures to measure specific quantities and collect related data.
- 6.2 Analyze the collected data using appropriate tools to draw conclusion about experimental results.

SO 7

→ PEO4

An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Performance Indicators:

- 7.1 Demonstrate commitment to lifelong learning and research after graduation, independently locating information pertinent to problem solving.