



DEPARTMENT OF CHEMICAL ENGINEERING
UNIVERSITY OF ENGINEERING AND TECHNOLOGY
PESHAWAR, PAKISTAN

PROGRAM MISSION

“To produce graduates of excellent technical, professional and scientific background in chemical engineering for the benefits of global society to work with the industry and community to help in boosting national economy and professional well-being.”

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Our department is dedicated to cultivating a dynamic learning environment that fosters academic excellence, practical skills, and forward-thinking research. We prepare students to tackle real-world challenges through a strong foundation in chemical engineering principles, hands-on experience, and interdisciplinary collaboration. Committed to shaping future leaders and change makers, our program empowers graduates to drive progress in industry, academia, and society at large:

| Program Educational Objectives (PEOs) | Description |
|---------------------------------------|---|
| PEO-1 | Be engaged in advanced studies in chemical engineering or professional development towards continuing education opportunities related to their career. |
| PEO-2 | Be successful leaders in applying chemical engineering principles and techniques for continued industrial growth and sustainable development. |
| PEO-3 | Be expected as a contributor with leading role to participate in the development of socio-economic environment of the community and society through their professional career and entrepreneurship. |

PROGRAM LEARNING OUTCOMES (PLOs)

At the end of this program, the students are expected to have the ability to:

| | | |
|-------|-----------------------|---|
| PLO-1 | Engineering Knowledge | An ability to apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems. |
| PLO-2 | 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. |



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| PLO-3 | 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. |
| PLO-4 | 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. |
| PLO-5 | Modern Tool Usage | An ability to create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations. |
| PLO-6 | 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. |
| PLO-7 | Environment & 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. |
| PLO-8 | Ethics | Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice. |
| PLO-9 | Individual and Teamwork | An ability to work effectively, as an individual or in a team, on multifaceted and /or multidisciplinary settings. |
| PLO-10 | 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. |
| PLO-11 | 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. |
| PLO-12 | Lifelong Learning | An ability to recognize importance of and pursue lifelong learning in the broader context of innovation and technological developments. |



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MAPPING BETWEEN PROGRAM EDUCATIONAL OBJECTIVES AND PROGRAM LEARNING OUTCOMES

The following table illustrate the mapping of PEOs and PLOs.

| S. No | PLOs | PEO 1 | PEO 2 | PEO 3 |
|-------|------------------------------------|-------|-------|-------|
| 1 | Engineering Knowledge | ✓ | ✓ | ✓ |
| 2 | Problem Analysis | ✓ | ✓ | |
| 3 | Design and Development of Solution | | ✓ | ✓ |
| 4 | Investigation | ✓ | | |
| 5 | Modern Tool Usage | ✓ | ✓ | |
| 6 | The Engineers and Society | | | ✓ |
| 7 | Environment and Sustainability | | | ✓ |
| 8 | Ethics | | ✓ | ✓ |
| 9 | Individual and Team Work | | | ✓ |
| 10 | Communication | | ✓ | ✓ |
| 11 | Project Management | | ✓ | ✓ |
| 12 | Lifelong Learning | ✓ | ✓ | ✓ |