

Department of Computer Science Engineering (B.Tech.)

Program Educational Objectives (PEO)

- 1.** To groom the graduates of the Computer Science and Engineering program for logical and practical approach to problem solving and function effectively as a skilled computer engineers who can respond to changing impact in a social and global context with a well-balanced preparation in engineering fundamentals and practical application.
- 2.** To enable the graduates of the Computer Science and Engineering program to work in multicultural and multidisciplinary teams for effective problem solving and understand the principles of group dynamics, public policy, aesthetics, cost effectiveness and sustainable development.
- 3.** To enable the graduates of Computer Science and Engineering in applying basic principles and practices of computing grounded in mathematics and science for successfully completing software related projects to meet customer business objectives and/or productively engage in research.

Program Outcomes (PO)

- 1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3. Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- 4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- 5. Modern tool usage:** 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.
- 6. The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent

responsibilities relevant to the professional engineering practice.

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

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. Communication: Communicate effectively 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.

11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSO)

1. Graduate will be able to apply theoretical and practical knowledge of computer science for developing software solutions to the real time problems.
2. Graduate will be able to apply and demonstrate the acquired knowledge of emerging trends and contemporary technologies in the field of computer science and engineering.

Course Outcome (CO)

<https://ptu.ac.in/wp-content/uploads/2024/06/Revised-BTech-CSE-2023.pdf>