



CURRICULUM ESSENTIALS

COMPUTER SCIENCE & ENGINEERING

VISION

To develop responsible citizens who would 'think global and act local' and become the change agents of society to meet the challenges of future.

DEPARTMENT MISSION

The mission of the Computer Science and Engineering Department is to build and sustain a high quality and broad area-based teaching and research program in computer science, to prepare students for successful professional careers both in industry, academics and as entrepreneur, and to provide service to the nation as a good human being.

Program Educational Objectives (PEO)

PE01: Graduates are prepared to be employed in IT industries and be engaged in learning, understanding, and applying new ideas

PE02: Graduates are prepared to take up Masters / Research programs.

PE03: Graduates are prepared to be responsible computing professionals in their own area of interest.

PE04: Graduates are prepared to be good entrepreneur and responsible social representatives.

Program Outcome (PO)

P01. ENGINEERING KNOWLEDGE:

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

P02. 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.

P03. 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.

P04. 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.

P05. MODERN TOOL USAGE:

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.

P06. 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.

Program Outcome (PO)

P07. 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.

P08. ETHICS:

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

P09. INDIVIDUAL AND TEAM WORK:

Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

P010. 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.

P011. 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.

P012. 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 (PSOs)

PS01: Specify, design, develop, test and maintain usable software systems that behave reliably and efficiently and satisfy all the requirements that customers have defined for them.

PS02: Demonstrate understanding of the principles and working of the hardware and software aspects of computer systems.

PS03: Use professional engineering practices, strategies and tactics for the development, operation and maintenance of software.