



CURRICULUM ESSENTIALS

ELECTRICAL 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

M1: To impart comprehensive and quality education and to develop innovative, entrepreneurial and ethical professionals, suitable for, sustainable environment.

M2: To develop a reservoir of experience and knowledge and to share it with the stake holders in education for mutual enrichment.

M3: To promote, product oriented and dedicated research for establishing a self-sustaining and wealth-creating centre to serve, the social needs.

M4: To prepare the students for new challenges in the field of electrical engineering.

M5: To create and sustain an environment, for critical thinking and problem solving.

M6: To strive to be at the forefront of Research and maintain intensive interaction with Industry and leading Research Centres, where students can be engaged in Projects, Training and Internships.

M7: To undertake collaborative projects which offer opportunities for long-term interaction with academia and industry.

M8: To develop human potential to its fullest extent so that intellectually capable and imaginatively gifted leaders can emerge in a range of professions.

Program Educational Objectives (PEO)

PEO 1. (Social contribution) - To train the students to solve real world problem through intensive practice, to guide the students to work on industry-oriented projects and to provide support for vocational training and visits to factories which will develop a sense of social contribution among the students and will motivate and inspire them for value addition to the society for each and every Endeavour.

PEO 2. (Tech and ICT skills) - To train the students on fabrication, assembly, operation, maintenance of all kinds of electrical machines and systems as well as on various programming languages as C, C++ so that they are able to develop suitable hardware and software interface to integrate electrical equipment.

PEO 3. (Communication and professional skills) - To develop competence in written communication, project documentation and paper writing as well as develop good verbal communication. To help them in developing public speaking skills along with accountability, profitability, values and ethics & professional behaviour to survive in a multidisciplinary environment.

PEO 4. (Industry orientation with social awareness) - To provide the students with opportunities for vocational training, industry visits, to make them aware of the industry and accustoming them with social concerns and professional responsibility.

PEO 5. (Higher study and research with lifelong learning) - To create the opportunity to work in major or minor projects with reputed academicians as well as industry professionals and encourage them for research, continued professional training to make them aware and adaptive to changes in workplace through formal and informal training throughout their lifetime.

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)

PSO 1. Use engineering knowledge to model and analyse the components of electrical power systems.

PSO 2. Apply the knowledge of science and engineering to develop sustainable electrical systems for social and industrial need.