

Department of Electronics and Communication Engineering

Program Education Objectives (PEOs):

PEO1: To provide solid foundation in Electronics and Communication Engineering along with good communication and entrepreneurship skills for tackling social issues.

PEO2: To impart students with good Scientific and Engineering knowledge in order to analyze, design and create novel products for giving practical solutions to real life problems.

PEO3: To create engineers with sound technical knowledge for facing all sorts of challenges in industry or in pursuance of higher studies.

PEO4: To motivate students acquire aptitude for lifelong learning along with leadership skills, team spirit and ethical values so that they upgrade themselves with the latest trends in the field of engineering in order to serve the society.

Programme Specific Outcomes (PSOs):

PSO-1: Graduates of the programme will be able to analyse real world engineering problems and provides its solution in the field of electronics and communication engineering

PSO-2: Graduates of the programme will be able to design and test systems in the field of embedded system and ICT.

PROGRAM OUTCOMES (POs)

Engineering Graduates will be able to:

P01: Engineering Knowledge:

Apply knowledge of mathematics, natural science, computing, engineering fundamentals, and an engineering specialization as specified in WK1 to WK4, respectively, to develop the solution of complex engineering problems.

P02: Problem Analysis:

Identify, formulate, review research literature, and analyze complex engineering problems, reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)

P03: Design/Development of Solutions:

Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society, and environment as required. (WK5)

P04: Conduct Investigations of Complex Problems:

Conduct investigations of complex engineering problems using research-based knowledge, including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

P05: Engineering Tool Usage:

Create, select, and apply appropriate techniques, resources, and modern engineering & IT tools, including prediction and modelling, recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

P06: The Engineer and The World:

Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture, and environment. (WK1, WK5, and WK7)

P07: Ethics:

Apply ethical principles and commit to professional ethics, human values, diversity, and inclusion; adhere to national & international laws. (WK9)

P08: Individual and Collaborative Team work:

Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

P09: Communication:

Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences.

P010: Project Management and Finance:

Apply knowledge and understanding of engineering management principles and economic decision-making, and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

P011: Life-Long Learning:

Recognize the need for, and have the preparation and ability for

- i) independent and life-long learning
- ii) adaptability to new and emerging technologies
- iii) critical thinking in the broadest context of technological change. (WK8)

Knowledge and Attitude Profile (WK)

WK1: A systematic, theory-based understanding of the natural sciences applicable to the discipline and awareness of relevant social sciences.

WK2: Conceptually-based mathematics, numerical analysis, data analysis, statistics, and formal aspects of computer and information science to support detailed analysis and modelling applicable to the discipline.

WK3: A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline.

WK4: Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.

WK5: Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports engineering design and operations in a practice area.

WK6: Knowledge of engineering practice (technology) in the practice areas of the engineering discipline.

WK7: Knowledge of the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and sustainable development.

WK8: Engagement with selected knowledge in the current research literature of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues.

WK9: Ethics, inclusive behaviour and conduct. Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability, etc., with mutual understanding and respect, and of inclusive attitudes.