Nutan Maharashtra Institute of Engineering & Technology, Talegaon Dabhade

Affiliated to Savitribai Phule Pune University

Program Outcomes (POs), Program Specific Outcomes (PSOs) and Programme Educational Objectives (PEOs) for all programs offered by the institution

Department of Information Technology

Programme Outcome (POs)

The students in the course will attain:

1. Engineering Knowledge:
   An ability to apply knowledge of computing, mathematics including discrete mathematics as well as probability and statistics, science, and engineering and technology;
2. Problem Analysis:
   An ability to define a problem and provide a systematic solution with the help of conducting experiments, as well as analyzing and interpreting the data;
3. Design / Development of Solutions:
   An ability to identify, formulate, and provide systematic solutions to complex engineering problems;
4. Conduct investigations of complex problems:
   An ability to use the techniques, skills, and modern engineering technologies tools, standard processes necessary for practice as an IT professional;
5. Modern Tool Usage
   An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems with necessary constraints and assumptions;
6. The Engineer and Society
   An ability to analyze the local and global impact of computing on individuals, organizations and society;
7. Environment and Sustainability
   An ability to understand professional, ethical, legal, security and social issues and responsibilities;
8. Ethics
   An ability to function effectively as an individual or as a team member to accomplish a desired goal(s);

9. Individual and Team Work
   An ability to engage in life - long learning and continuing professional development to cope up with fast changes in the technologies/tools with the help of electives, professional organizations and extra - curricular activities;
10. Communication
    An ability to communicate effectively in engineering community at large by means of effective presentations, report writing, paper publications, demonstrations;
11. Project Management & Finance
    An ability to understand engineering, management, financial aspects, performance, optimizations and time complexity necessary for professional practice;
12. Lifelong learning
    An ability to apply design and development principles in the construction of software systems of varying complexity.

Programme Specifics Outcomes (PSO)

A graduate of the Information Technology Program will demonstrate:

PSO 1 - An ability to apply the theoretical concepts and practical knowledge of Information Technology in analysis, design, development and management of information processing systems and applications in the interdisciplinary domain.

PSO 2 - An ability to analyze a problem, and identify and define the computing infrastructure and operations requirements appropriate to its solution. IT graduates should be able to work on large-scale computing systems

PSO 3 - An understanding of professional, business and business processes, ethical, legal, security and social issues and responsibilities

PSO 4 - Practice communication and decision-making skills through the use of appropriate technology and be ready for professional responsibilities.

Programme Educational Objectives (PEO's)

A graduate of the Information Technology Program will demonstrate:

PEO 1 - Possess strong fundamental concepts in mathematics, science, engineering and Technology to address technological challenges.

PEO 2 - Possess knowledge and skills in the field of Computer Science and Information Technology for analyzing, designing and implementing complex engineering problems of any domain with innovative approaches.

PEO3 - Possess an attitude and aptitude for research, entrepreneurship and higher studies in the field of Computer Science and Information Technology.

PEO4 - Have commitment to ethical practices, societal contributions through communities and life-long learning

PEO5 - Possess better communication, presentation, time management and teamwork skills leading to responsible & competent professionals and will be able to address challenges in the field of IT at global level.

Department of Computer Engineering

Programme Outcome (POs)

The students in the course will attain:

1. **Engineering Knowledge:**
   An ability to apply knowledge of computing, mathematics including discrete mathematics as well as probability and statistics, science, and engineering and technology;
2. **Problem Analysis:**
   An ability to define a problem and provide a systematic solution with the help of conducting experiments, as well as analyzing and interpreting the data;
3. **Design / Development of Solutions:**
   An ability to identify, formulate, and provide systematic solutions to complex engineering problems;
4. **Conduct investigations of complex problems:**
   An ability to use the techniques, skills, and modern engineering technologies tools, standard processes necessary for practice as an IT professional;
5. **Modern Tool Usage**
   An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems with necessary constraints and assumptions;
6. **The Engineer and Society**
   An ability to analyze the local and global impact of computing on individuals, organizations and society;
7. **Environment and Sustainability**
   An ability to understand professional, ethical, legal, security and social issues and responsibilities;
8. **Ethics**
   An ability to function effectively as an individual or as a team member to accomplish a desired goal.
9. **Individual and Team Work**
   An ability to engage in life - long learning and continuing professional development to cope up with fast changes in the technologies/tools with the help of electives, professional organizations and extra - curricular activities;
10. **Communication**
    An ability to communicate effectively in engineering community at large by means of effective presentations, report writing, paper publications, demonstrations;
11. **Project Management & Finance**
    An ability to understand engineering, management, financial aspects, performance, optimizations and time complexity necessary for professional practice;
12. **Lifelong learning**
    An ability to apply design and development principles in the construction of software systems of varying complexity.

Programme Specifics Outcomes (PSO)

A graduate of the Computer Engineering Program will demonstrate
PSO1: Professional Skills - The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying.
PSO2: Problem-Solving Skills - The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.
PSO3: Successful Career and Entrepreneurship - The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, and a zest for higher studies.

Programme Educational Objectives (PEO's)

The students of Computer Engineering course after passing out will
PEO1: To prepare globally competent graduates having strong fundamentals, domain knowledge, updated with modern technology to provide the effective solutions for engineering problems.
PEO2: To prepare the graduates to work as a committed professional with strong professional ethics and values, sense of responsibilities, understanding of legal, safety, health, societal, cultural and environmental issues.
PEO3: To prepare committed and motivated graduates with research attitude, lifelong learning, investigative approach, and multidisciplinary thinking..
PEO4: To prepare the graduates with strong managerial and communication skills to work effectively as individual as well as in teams

Department of Mechanical Engineering

Programme Outcome (POs)

The students in the course will attain:

1. Engineering Knowledge:
   An ability to apply knowledge of computing, mathematics including discrete mathematics as well as probability and statistics, science, and engineering and technology;
2. Problem Analysis:
   An ability to define a problem and provide a systematic solution with the help of conducting experiments, as well as analyzing and interpreting the data;
3. Design / Development of Solutions:
   An ability to identify, formulate, and provide systematic solutions to complex engineering problems;
4. Conduct investigations of complex problems:
   An ability to use the techniques, skills, and modern engineering technologies tools, standard processes necessary for practice as an IT professional;
5. Modern Tool Usage
   An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems with necessary constraints and assumptions;
6. The Engineer and Society
   An ability to analyze the local and global impact of computing on individuals, organizations and society;
7. Environment and Sustainability
   An ability to understand professional, ethical, legal, security and social issues and responsibilities;
8. Ethics
   An ability to function effectively as an individual or as a team member to accomplish a desired goal(s);
9. Individual and Team Work
   An ability to engage in life - long learning and continuing professional development to cope up with fast changes in the technologies/tools with the help of electives, professional organizations and extra - curricular activities;
10. Communication
    An ability to communicate effectively in engineering community at large by means of effective presentations, report writing, paper publications, demonstrations;
11. Project Management & Finance
    An ability to understand engineering, management, financial aspects, performance, optimizations and time complexity necessary for professional practice;
12. Lifelong learning
    An ability to apply design and development principles in the construction of software systems of varying complexity.

Programme Specifics Outcomes (PSO)

PSO 1 - A student will be able to apply knowledge of thermal and mechanical design along with manufacturing processes to cater industry and society.
PSO 2 - A Student will be able to be a promising entrepreneur imparting technical knowledge towards development of society.

Programme Educational Objectives (PEO's)

Program educational objectives are broad statements that describe the career and professional accomplishments that the program is preparing graduates to achieve.

Program Educational Objectives (PEOs)	
PEO1	To impart engineering & technical skills along with lifelong learning to make aware about latest trends.
PEO2	To build strong foundation in engineering fundamentals to synthesize innovative solution
PEO3	To develop technical professional to solve complex engineering problem
PEO4	To inculcate the spirit for professional & social ethics.

Department of Electronics & Telecommunication Engineering

Programme Outcome (POs)

The students in the course will attain:

1. Engineering Knowledge:
An ability to apply knowledge of computing, mathematics including discrete mathematics as well as probability and statistics, science, and engineering and technology.

2. Problem Analysis:
An ability to define a problem and provide a systematic solution with the help of conducting experiments, as well as analyzing and interpreting the data.

3. Design / Development of Solutions:
An ability to identify, formulate, and provide systematic solutions to complex engineering problems.

4. Conduct investigations of complex problems:
An ability to use the techniques, skills, and modern engineering technologies tools, standard processes necessary for practice as an IT professional.

5. Modern Tool Usage
An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems with necessary constraints and assumptions.

6. The Engineer and Society An ability to analyze the local and global impact of computing on individuals, organizations and society.

7. Environment and Sustainability
An ability to understand professional, ethical, legal, security and social issues and responsibilities.

8. Ethics
An ability to function effectively as an individual or as a team member to accomplish a desired goal.

9. Individual and Team Work
An ability to engage in life - long learning and continuing professional development to cope up with fast changes in the technologies/tools with the help of electives, professional organizations and extra - curricular activities.

10. Communication
An ability to communicate effectively in engineering community at large by means of effective presentations, report writing, paper publications, demonstrations.

11. Project Management & Finance
An ability to understand engineering, management, financial aspects, performance, optimizations and time complexity necessary for professional practice.

12. Lifelong learning
An ability to apply design and development principles in the construction of software systems of varying complexity.

Programme Specifics Outcomes (PSO)

The Program Specific Outcomes for E&TC Engineering course are
1. The ability to absorb and apply fundamental knowledge of core Electronics and Communication Engineering subjects in the analysis, design, and development of various types of integrated electronic systems as well as to interpret and synthesize the experimental data leading to valid conclusions.
2. Competence in using electronic modern IT tools (both software and hardware) for the design and analysis of complex electronic systems in furtherance to research activities.
3. Excellent adaptability to changing work environment, good interpersonal skills as a leader in a team in appreciation of professional ethics and societal responsibilities.

Programme Educational Objectives (PEO's)

The students of E&TC Engineering course after passing out will
1. Provide graduates with a strong foundation in mathematics, science and engineering fundamentals to enable them to devise and deliver efficient solutions to challenging problems in Electronics, Communications and allied disciplines.
2. Impart analytic and thinking skills to develop initiatives and innovative ideas for R&D, Industry and societal requirements.
3. Provide sound theoretical and practical knowledge of E&C Engineering, managerial and entrepreneurial skills to enable students to contribute to the well-being of society with a global outlook.
4. Inculcate qualities of teamwork as well as social, interpersonal and leadership skills and an ability to adapt to evolving professional environments in the domains of engineering and technology.