

Department of Civil Engineering

List of PEOs, POs and PSOs for BE Civil Engineering
2018 & 2021 Scheme

Program Educational Objectives (PEOs)

- I. Technical adeptness:** The Civil Engineering Graduates will be technically adept to specific fields and other disciplines. Management towards Planning, Design, and Costing. Their technical skills and knowledge will enable them to perform their work with a commitment and quality, timeliness with continuous improvement.
- II. Interpersonal Skills:** Civil Engineering Graduates will exhibit effective interpersonal skills in teams and at workplace.
- III. Awareness of Social impact:** Graduates will be made aware of causes of impacts due to the development and to identify remedial measures if necessary.
- IV. Professionalism:** Understanding of professionalism, ethics, quality performance, sustainability and allow them to be professional leaders and contributors to society through their problem-solving capabilities and executing the work.
- V. Continuous Learning:** Civil Engineering Graduates will exhibit interest in lifelong learning including studies leading to professional licensure or higher studies in engineering that provides for continued development of their technical ability and management skills

PROGRAM OUTCOMES (POs)

Engineering Graduates will be able to:

- PO1.Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.
- PO2.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.
- PO3.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.
- PO4.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.
- PO5.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.
- PO6.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.
- PO7.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.
- PO8.Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9.Individual and teamwork: Function effectively as an individual and as a member or leader in diverse teams and in multi-disciplinary settings.

PO10.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.

PO11.Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply the set one's own work, as a member and leader in a team, to manage projects and in multi-disciplinary environments.

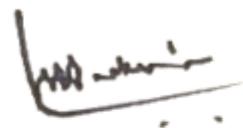
PO12.Lifelong learning: Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context to technological change.

PROGRAM SPECIFIC OUTCOMES(PSOs)

PSO13.Project inception and design: Conceptualize projects related to different fields of Civil Engineering, collect relevant data by direct and indirect methods, analyze the project requirement and design the project.

PSO14.Draft specification: Select material, prepare estimates/costing, schedule work plans.

PSO15.Experimentation: Apply knowledge of different fields of Civil Engineering, conduct experiments, analyze, interpret data, and design the system components.



HOD, Civil Engineering

List of PEOs, POs and PSOs for BE Civil Engineering
2015 Scheme

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

- I. Technical adeptness:** The Civil Engineering Graduates will be technically adept to specific fields and other disciplines and Management towards Planning, Design, and Costing. Their technical skills and knowledge will enable them to perform their work with a commitment and quality, timeliness with continuous improvement.

- II. Interpersonal Skills:** Civil Engineering Graduates will exhibit effective interpersonal skills in teams and at workplace.

- III. Awareness of Social impact:** Graduates will be made aware of causes of impacts due to the development and also to identify remedial measures if necessary.

- IV. Professionalism:** Understanding of professionalism, ethics, quality performance, sustainability and allow them to be professional leaders and contributors to society through their problem-solving capabilities and executing the work.

- V. Continuous Learning:** Civil Engineering Graduates will exhibit interest in lifelong learning including studies leading to professional licensure or higher studies in engineering that provides for continued development of their technical ability and management skills.

PROGRAM OUTCOMES (POs)

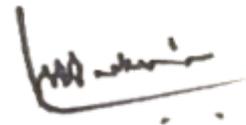
Engineering Graduates will be able to:

- PO 1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO 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.
- PO 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.
- PO 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.
- PO 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.
- PO 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.

- PO 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.
- PO 8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- PO 9. **Individual and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO 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.
- PO 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.
- PO 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 (PSOs)

- PSO 1 **Project inception and design:** Conceptualize projects related to different fields of Civil Engineering, collect relevant data by direct and indirect methods, analyze the project requirement and design the project.
- PSO 2 **Draft specification:** Select material, prepare estimates/costing, schedule work plans.
- PSO 3 **Experimentation:** Apply knowledge of different fields of Civil Engineering, conduct/ design experiments, analyze, interpret data, draw inferences and design system components.



HOD, Civil Engineering

List of PEOs and POs for M.Tech CADs

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs):

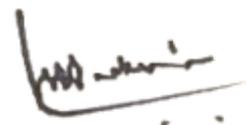
1. To provide proficiency in the basic principles and advanced courses of technology in Computer Aided Design of Structures so that students are able to formulate, analyze and solve the societal problems for sustainable development related to Structural Engineering.
2. To expose students to the latest innovations and trends with a view to inculcate strong research orientation in Computer Aided Design of Structures as well as in multidisciplinary streams.
3. To create a congenial environment that promotes learning, growth and imparts ability to work with inter-disciplinary groups in professional, industry and research organizations.
4. To produce Structural Engineers who integrate and build on the program's core curricular concepts in the pursuit of professional leadership, teamwork, life-long learning, and successful career advancement.

PROGRAMME OUTCOMES (POs):

PO1: An ability to independently carry out design /research/investigation and development work to solve practical problems.

PO2: An ability to write and present a substantial technical report/document.

PO3: Students should be able to demonstrate a degree of mastery over design of structures using software tools as per the specialization of the program.



HOD, Civil Engineering