



DEPARTMENT OF CIVIL ENGINEERING

HIGHWAY ENGINEERING

Program Educational Objectives (PEOs)

- I. To provide the student with a solid foundation in Planning, Design, Construction, Operation and Maintenance of highway projects in the context of environmental, economic and social requirements.
- II. To equip students with modern concepts and tools which would enable them to become globally competent professionals and fitting into a broad range of career opportunities in highway research and industry.
- III. To prepare the students in lifelong learning for professional advancement, that would help them to execute complex transportation projects with professional ethics and social responsibilities.

Program Outcomes (POs)

The program demonstrates that:

- a. **Engineering Knowledge:** The student is capable of applying the principles of basic science, engineering and optimization techniques to solve highway engineering problems.
- b. **Problem Analysis:** The Graduates will possess critical thinking skills, problem solving abilities and familiarity with the computational procedures essential to the field.
- c. **Design & Development of Solutions:** The student is able to plan, analyze, design, synthesize and execute complex highway infrastructure projects considering societal and environmental considerations.
- d. **Conduct investigations of complex problems:** The student will use research based knowledge and methods to design, conduct experiments and to analyze and interpret experimental data to provide sustainable engineering solutions for highway related societal problems in local and global context.
- e. **Modern Tool Usage:** The student will get hands on training in various Modern Highway Engineering software's and modern equipment.
- f. **The Engineer and Society:** The Students will apply reasoning informed by the appropriate knowledge to assess societal, health, safety, legal and cultural issues.
- g. **Environment and Sustainability:** As the students possess substantial knowledge in multi-disciplinary subjects, they will be able to plan various projects keeping in view its environmental effects on other related fields.



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- h. **Ethics:** The student will practice and apply professional skills with social responsibility
- i. **Individual and Team work:** The Graduate can functions effectively in multi-disciplinary projects and demonstrate leadership qualities.
- j. **Communication:** The Student will excel in expressing ideas, writing technical reports with good communication and managerial skills.
- k. **Project Management and Finance:** The Graduates will demonstrate knowledge and understanding of the critical issues for professional practices such as the procurement of works, interaction with contractors during the construction phase of a project, the finance management and managerial capabilities.
- l. **Life-Long learning:** The student engages in lifelong learning for professional advancement.