



Department of Civil Engineering

PROGRAM OUTCOMES(POs)

Engineering Graduates will be able to:

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
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.
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.
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.
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.
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.
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.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

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.

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.

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.



Department of Civil Engineering

PROGRAM SPECIFIC OUTCOMES

PSO 1) Plan and design, maintain and execute smart infrastructural projects.

PSO 2) Assess and analyze environmental impact of civil engineering projects and take corrective action for sustainable development.

PSO 3) Use leadership and communication abilities to optimally integrate the 4Ms Viz.-Men, Money, Material and Machine

**Department of Civil Engineering****Course Outcome:-****F.Y.B Tech.****APPLIED MECHANICS****Course Outcomes:**

This course used assigned readings, lectures, and homework to enable the students to

- a) Understands and apply Newton's law to problems systems consisting of rigid bodies in equilibrium and particles in motion.
- b) Use of engineering science principles to develop algebraic relationships among key physical parameters and variable based on analysis of a specified system.
- c) Use references that provide tabulated physical data that are useful to civil engineers.
- d) Write simple programs to solve more complicated problems and to study the effect of system parameters.
- e) Understands and apply De Alembert's principle to problems systems consisting of motion bodies in dynamic equilibrium.
- f) The graduates can participate and succeed in competitive examinations like GATE, Engineering services examinations.

BASIC CIVIL ENGINEERING**Course Outcomes**

- a) Graduate will demonstrate knowledge in mathematics, science & Civil Engineering

S.Y.B Tech.

ENGINEERING MATHEMATICS-III

Course Outcomes-

This course used assigned lectures, homework to enable the students to

- a) Graduate will demonstrate knowledge in mathematics, science and civil engineering.
- b) Graduate will demonstrate the ability to solve the civil engineering problems.
- c) Graduate who can participate and succeed in competitive examinations like GRE, TOFEL, GATE etc.

SURVEYING

Course Outcomes

- a) Graduate will demonstrate knowledge in mathematics, science & civil engineering.
- b) Graduate will demonstrate the ability to complete the construction site in all respect like planning, execution, supervision, management etc.
- c) Graduates are expected to possess ability to function on multidisciplinary teams.
- d) Graduate will demonstrate the ability to work on modern techniques coming in the civil engineering industry.
- e) Graduate will demonstrate the ability to work on latest computer software available for civil engineering industry.
- f) Graduate will demonstrate the ability to identify and solve civil engineering. Problem.
- g) Graduate will develop confidence for self education and ability for life long learning.
- h) The graduates can participate and succeed in competitive examinations like GATE, Engineering services examinations.

STRUCTURAL MECHANICS

Course Outcomes -

- a) Graduate will demonstrate knowledge in mathematics, science & civil engineering
- b) Graduate will demonstrate to identify and solve civil engineering problems
- c) The graduates can participate and succeed in competitive examinations like GATE, Engineering services examinations.

BUILDING CONSTRUCTION

Course Outcomes

This course used assigned lectures, practical and homework to

- a) Graduate will demonstrate the ability to complete the construction site in all respect like planning, execution, supervision.
- b) Graduate will demonstrate structural design ability that meets the design specification, requirement with economy and safety.
- c) Graduate will demonstrate the ability to identify and solve civil engineering problem.

BUILDING DESIGN

Course Outcomes

The following are the learning outcomes of a Building design Course,

- a) Graduate will demonstrate the ability to complete the construction site in all respect like planning, execution, supervision, management etc.
- b) Graduate will demonstrate the ability to work on latest computer software's available for construction industry.
- c)The Graduate will develop confidence for self education and ability for life long learning.

FLUID MECHANICS

Course Outcomes:

- a) Graduate will demonstrate the ability to identify and solve fluid mechanics problems.
- b) The student will be able to have knowledge of fundamental concepts in fluids, such as density, viscosity, pressure, stress/strain rate, etc.
- c) The student will demonstrate an ability to solve and analyze the mathematical model associated with a physical fluid-flow system. Analyze problems in simple and compound pipelines. To provide the student with some specific knowledge regarding fluid-flow phenomena observed in civil engineering systems, such as flow in an open channel, Boundary-layer flows, drag, etc.
- d) Graduate will demonstrate knowledge in mathematics, science and civil engineering.

NUMERICAL METHODS

Course Outcomes

- a) Graduate will demonstrate knowledge in mathematics, science & civil engineering.
- b) Graduate will demonstrate structural design ability that meets design specification, requirements with economy and safety.
- c) Graduate will demonstrate the ability to identify and solve civil engineering problems.
- d) Graduate will demonstrate the ability to work on modern techniques coming in the civil engineering industry.
- e) Graduate will demonstrate the ability to work on latest computer software available for civil engineering industry.

COMPUTER AIDED DRAWING

Course Outcomes

- a) Graduate will demonstrate the ability to work on latest computer softwares available for civil engineering industry.
- b) Graduate will demonstrate confidence for self education and ability for life long learning.

T.E. Civil

ENGINEERING GEOLOGY

Contribution to outcome-

- a) The learning outcomes are assessed through graded homework, mid semester, final examination, the laboratory work and site visit.
- b) Since the course is like engg. In the curriculum. There are additional opportunities to evaluate the extent to which the course objectives are achieved from feedback of the faculty teaching professional core courses. The feedback is particularly meaningful from the faculty members who teach the courses like Building planning and design, Geotechnical engineering, Earthquake engineering etc . They will be able to understand the effect of the physical process like volcano, earth quake and the dependability of civil engg. Structures on it.
- c) The graduates can participate and succeed in competitive examinations like GATE, Engineering services examinations.

DESIGN OF STEEL STRUCTURES

Course Outcomes

- a) Graduate will demonstrate structural design ability that meet design specifications, requirements with economy and safety.
- b) Graduate will demonstrate the ability to identify and solve civil engineering Problem.
- c) Graduate will demonstrate the ability to work on latest computer softwares available for civil engineering industry.

GEOTECHNICAL ENGINEERING

Course Outcomes-This course used lectures and practical so that the

- a) Graduates will demonstrate knowledge in mathematics, science and civil engineering.
- b) Graduate will demonstrate structural design ability that meets design specifications and requirements with economy and safety.
- c) Graduate will demonstrate the ability to identify and solve civil engineering problems.

WATER RESOURCES ENGINEERING

Course Outcomes

- a) Graduate will understand professional and ethical responsibility.
- b) Graduate will demonstrate the ability to identify and solve civil engineering problems.
- c) The graduates can participate and succeed in competitive examinations like GATE, Engineering services examinations.

CONCRETE TECHNOLOGY

Course Outcomes

- a) Graduate will demonstrate the ability to complete the construction site in all respect
like planning, execution, supervision, management etc.
- b) Graduate will demonstrate the ability to identify and solve civil engineering problem.
- c) Graduate will demonstrate the ability to work on modern techniques coming in civil
engineering industry.
- d) Graduate are expected to have understanding of professional and ethical responsibility.
- e) Graduates who can participate and succeed in competitive examination like GRE,
GATE, TOFEL, Engg.Service Exam.

ENVIRONMENTAL ENGINEERING

Course Outcomes-

This course used assigned lectures, practical and homework to:

- a) Enable the students to know the safety in domestic and industrial water requirements.
- b) Graduate will demonstrate the ability to work on modern techniques coming in civil engineering in water supply systems.
- c) Graduates will literate their families and neighbors about their water qualities, treatment, uses, hazards and prevent them.
- d) Understand the effects of waste water, air pollution, noise pollution on human health.
- e) Graduates will demonstrate the strength and effects of pollution to his family, relatives, and neighbors.
- f) Graduate will able to develop his own methods for the treatment of waste water and apply it in the practice.
- g) Graduate will take the care and preventive measures for solid waste, liquid waste, air pollution and noise pollution.

BUILDING PLANNING AND DESIGN

Course Outcomes

The following are the learning outcomes of a Building planning and design Course,

- a) Graduate will demonstrate the ability to complete the construction site in all respect like planning, execution, supervision, management etc.
- b) Graduate will demonstrate the ability to work on latest computer software's available for construction industry.
- c) The Graduate will develop confidence for self education and ability for life long learning.

ENGINEERING MANAGEMENT

Course Outcomes-

- a) Graduate will demonstrate knowledge in construction management and engineering Economics.
- b) Graduate will demonstrate ability in project planning, scheduling, controlling and economic study.
- c) Graduate will apply latest computer software available.
- d) Graduate will be able to apply professional responsibility.
- e) Graduate will be expected to possess ability to communicate knowledge.
- f) Graduate will be expected to possess ability to work with confidence.

STRUCTURAL DESIGN AND DRAWING I

Course Outcomes

- a) Graduate will demonstrate the ability to complete the construction site in all respect like planning, execution, supervision, management etc.
- b) Graduate will demonstrate structural design ability that meets design specifications, requirements with economy and safety.
- c) Graduate will demonstrate the ability to identify and solve civil engineering problems.
- d) Graduate will demonstrate the ability to work on latest computer softwares available for civil engineering industry.
- e) The graduates can participate and succeed in competitive examinations like GATE, Engineering services examinations.

SEMINAR

Course Outcomes-

- a] Graduate will demonstrate knowledge in mathematics, science & civil engineering.
- b] Graduate will demonstrate the ability to identify and solve civil engineering problems.
- c] Graduate will demonstrate the ability to work on modern techniques coming in the civil engineering industry.
- d] Graduate will demonstrate the ability to work on latest computer softwares available for civil engineering industry.
- e] The graduates are expected to communicate effectively in both verbal and written forms.
- f] The graduates will develop confidence for self education and ability for life long learning.

BE CIVIL

DESIGN OF CONCRETE STRUCTURES

Course Outcomes-

- a) Graduate will demonstrate structural design ability that meet design specifications, requirements with economy and safety.
- b) Graduate will demonstrate the ability to identify and solve civil engineering Problem.
- c) Graduate will demonstrate the ability to work on latest computer softwares available for civil engineering industry.
- d) The graduates can participate and succeed in competitive examinations like GATE, Engineering services examinations.

QUANTITY SURVEYING & VALUATION

Course Outcomes

The following are the learning outcomes of a Bridge Engg. Course

- a) Graduate will demonstrate knowledge in mathematics, science and Civil Engg.
- d) Graduate will demonstrate the ability to work on modern techniques coming in the Civil Engg. industry.
- c) The Graduate will develop confidence for self education and ability for life long learning.

EARTHQUAKE ENGINEERING

Course Outcomes

- a) Graduate will demonstrate knowledge in mathematics, science & civil engineering
- b) Graduate will demonstrate the ability to complete the construction site in all respect like planning, execution, supervision, management etc.
- c) Graduate will demonstrate the ability to work on modern techniques coming in civil engineering industry.
- d) Graduate will demonstrate the ability to identify and solve civil engineering problem.

ELECTIVE -I

TRAFFIC ENGINEERING & CONTROL

PROJECT APPRISAL

Course Outcomes-

Assigned readings, lectures and home work to enable students to

- a)Use knowledge to study project alternatives, financial study.
- b)Understand apply economic analysis for project selection.
- c)Try some project reports to prepare more complicated projects reports.

Outcomes-

- a] Graduate will demonstrate knowledge in economics.

b] Graduate will demonstrate the ability to identify and select civil engineering projects like irrigation, bridge and roads.

c] Graduate will demonstrate the ability to complete project reports in all respects.

d] Graduate are expected to have understanding of professional and ethical responsibility.

e] Graduate are expected to possess ability to communicate in both verbal and written forms.

f] Graduate will develop confidence for self education and ability for life long learning.

TOWN PLANNING

Course Outcomes

a) Graduate will demonstrate confidence for self education and ability for life long learning.

b) Graduate will demonstrate the ability to identify and solve civil engineering problem.

BRIDGE ENGINEERING

Course Outcomes

The following are the learning outcomes of a Bridge Engg. Course

a) Graduate will demonstrate knowledge in mathematics, science and Civil Engg.

b) Graduate will demonstrate the ability to work on modern techniques coming in the Civil Engg. Industry.

c) The Graduate will develop confidence for self education and ability for life long learning.

TRANSPORTATION ENGINEERING

Course Outcomes -

- a) Graduate will demonstrate the ability to complete the construction site in all respect like planning, execution, supervision, management etc.
- b) Graduate will demonstrate the ability to identify and solve civil engineering problems.
- c) The graduates can participate and succeed in competitive examinations like GATE, Engineering services examinations.

CONSTRUCTION PRACTICES

Course Outcomes

This course used assigned lectures, practical and homework to

- a) Graduate will demonstrate the ability to work on modern techniques coming in civil engineering industry.
- b) Graduate will demonstrate structural design ability that meets the design specification, requirement with economy and safety.
- c) Graduate will demonstrate the ability to identify and solve civil engineering problem.

ELECTIVE II

ENTREPRENEURSHIP

Course Outcomes

Following are the learning outcomes

- a] Graduate will demonstrate knowledge in mathematics, science & civil engineering.
- b] Graduate will demonstrate the ability to complete the construction site in all respect like planning, execution, supervision, management etc.

c] Graduate will demonstrate structural design ability that meets design specification, requirements with economy and safety.

d] Graduate will demonstrate the ability to work on latest computer softwares available for civil engineering industry.

e] The graduates are expected to possess ability to function on multidisciplinary teams.

ADVANCED STRUCTURAL DESIGN

Contribution to outcome

a) Graduate will demonstrate structural design ability that meets design specifications, requirements with economy and safety

PROJECT WORK

Course Outcomes

a) Graduate will demonstrate the ability to identify and solve civil engineering problems.

b) Graduate will demonstrate confidence for self education and ability for life long learning.

c) Graduate will demonstrate the ability to work on latest computer software available for civil engineering industry.

d) Graduate will understand professional and ethical responsibility.