

2.6 Student Performance and Learning Outcomes



**Narasu's Sarathy
Institute of Technology**

Approved by AICTE | Accredited By NAAC | Affiliated to Anna University

Salem Bengaluru Highway NH - 7, Poosaripatty, Kadayampatty Taluk, Salem - 636305.

Admin Office: 93449-72274, Admission Cell: 93449-72275, 73977-56003,
admin@nsit.edu.in, www.nsit.edu.in

COURSE OUTCOMES (COs)

DEPARTMENT OF CIVIL ENGINEERING

**2.6.1 Teachers and students are aware of the stated Programme
and course outcomes of the
Programmes offered by the institution.**

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DEPARTMENT OF CIVIL ENGINEERING

VISION

Impart knowledge and excellence in Civil engineering and technology with global perspectives and make the students ethically strong engineers to build our nation.

MISSION

- To provide civil engineers with high caliber, technical skills and ethical values to serve the society and nation.
- To promote innovation in the minds of budding engineers to face the challenges of future
- To make the department as center of excellence in the field of civil engineering and allied research.
- To provide knowledge based consultancy services to the community in all areas of civil engineering

PROGRAM SPECIFIC OUTCOMES (PSOs):

The B.E. Degree Programme in Civil Engineering is offered in the department with the following programme specific objectives:

1. The Graduates of this Programme with proficiency in mathematics and physical sciences will excel in the core areas of civil engineering such as structural, environmental and water resources engineering.
2. The graduates will plan, produce detailed drawings, write specification, and prepare cost estimates.
3. The graduates will interact with stakeholders effectively and execute quality construction work applying necessary tools

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PROGRAMME EDUCATIONAL OBJECTIVES:

- I. To prepare students for successful careers in Civil Engineering field that meets the needs of Indian and multinational companies.
- II. To develop the confidence and ability among students to synthesize data and technical concepts and thereby apply it in real world problems.
- III. To develop students to use modern techniques, skill and mathematical engineering tools for solving problems in Civil Engineering.
- IV. To provide students with a sound foundation in mathematical, scientific and engineering fundamentals necessary to formulate, solve and analyse engineering problems and to prepare them for graduate studies.
- V. To promote students to work collaboratively on multi-disciplinary projects and make them engage in life-long learning process throughout their professional life.

PROGRAMME OUTCOMES:

On successful completion of the programme,

- a. Graduates will demonstrate knowledge of mathematics, science and engineering.
- b. Graduates will demonstrate an ability to identify, formulate and solve engineering problems.
- c. Graduate will demonstrate an ability to design and conduct experiments, analyze and interpret data.
- d. Graduates will demonstrate an ability to design a system, component or process as per needs and specifications.
- e. Graduates will demonstrate an ability to visualize and work on laboratory and multidisciplinary tasks.
- f. Graduate will demonstrate skills to use modern engineering tools, software and equipment to analyze problems.
- g. Graduates will demonstrate knowledge of professional and ethical responsibilities.
- h. Graduate will be able to communicate effectively in both verbal and written form.

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- i. Graduate will show the understanding of impact of engineering solutions on the society and also will be aware of contemporary issues.
- j. Graduate will develop confidence for self-education and ability for life-long learning.

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

PO 2: Problem Analysis Identify, formulate, research literature and analyze complex Production and Industrial 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 specified needs with appropriate consideration for public health and safety, cultural, societal and environmental considerations.

PO 4: Conduct investigations of complex Engineering Problems Use research-based knowledge and research methods including analysis, interpretation of data and synthesis of 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 contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to 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 engineering practice.

PO 9: Individual and Team Work Function effectively as an individual, and as a member or

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leader in diverse teams and in multi-disciplinary 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 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.

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DEPARTMENT OF CIVIL ENGINEERING	
REGULATION & SEMESTER:	2017 - I
SUBJECT CODE & NAME:	HS8151 - Communicative English
CO'S	COURSE OUTCOMES
CO1	Students will acquire wide knowledge in all the four skills such as listening, speaking, reading and writing
CO2	Students will be able to write effectively for a variety of professional and social settings.
CO3	Students will be able to share ideas and concepts in proper pronunciation, structure, appropriate use and style of the English Language as well as the application areas of English communication
CO4	Students will be able to prepare, organize, and deliver an engaging oral presentation.
CO5	Students will become active readers who can articulate their own interpretations with an awareness and curiosity for other perspectives.
SUBJECT CODE & NAME:	MA8151 -Engineering Mathematics - I
CO'S	COURSE OUTCOMES
	Student will be able,
CO1	To apply both the limit definition and rules of differentiation to differentiate functions.
CO2	To apply Differentiation in Maxima and Minima problems
CO3	To Evaluate integrals both by using Riemann's and the fundamental theorem of calculus
CO4	To compute multiple integrals, area, volume, integrals in polar coordinates in addition to change of order and change of variables
CO5	To evaluate the integrals using techniques of integration, such as substitution, partial fractions and integration by parts

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SUBJECT CODE & NAME:	PH8151 - Engineering Physics
CO'S	COURSE OUTCOMES
	Student will be able,
CO1	Understand the elastic behavior and thermal properties of materials.
CO2	Understand the properties and applications of wave and fiber optics
CO3	Understand thermal properties of the material.
CO4	Understand Quantum mechanical behavior of the material
CO5	Understand the crystal structure and growing methods of crystal
SUBJECT CODE & NAME:	CY8151 - Engineering Chemistry
CO'S	COURSE OUTCOMES
	Student will be able,
CO1	To Know and develop innovative methods to produce soft water for boiler feed by various treatment process.
CO2	Explain role of adsorption phenomena and various catalytic types and its key properties
CO3	Students able to know about significance and properties of alloy making and its application on phase diagram.
CO4	To explain about analysis and manufacture of various types of fuel.
CO5	To Know about the importance and application of energy sources and energy storage devices.
SUBJECT CODE & NAME:	GE8151 - Problem Solving and Python Programming
CO'S	COURSE OUTCOMES
	Student will be able,
CO1	Develop algorithmic solutions to simple computational problems
CO2	Read, write, execute by hand simple Python programs.
CO3	Structure simple Python programs for solving problems.
CO4	Decompose a Python program into functions.
CO5	Represent compound data using Python lists, tuples, dictionaries
CO6	Read and write data from/to files in Python Programs.
SUBJECT CODE & NAME:	GE8152 - Engineering Graphics
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Perform Freehand Sketching Of Basic Geometrical Constructions And Multiple Views Of Objects and conic sections.
CO2	Develop Orthographic Projections Of Lines And Plane Surfaces
CO3	Draw projections of solids
CO4	Draw projections of development of surfaces

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CO5	Visualize and to project isometric and perspective sections of simple solids
SUBJECT CODE & NAME:	GE8161- Problem Solving and Python Programming Laboratory
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Write, test, and debug simple Python programs.
CO2	Implement Python programs with conditionals and loops.
CO3	Develop Python programs step-wise by defining functions and calling them.
CO4	Use Python lists, tuples, dictionaries for representing compound data.
CO5	Read and write data from/to files in Python.
SUBJECT CODE & NAME:	BS8161-Physics and Chemistry Laboratory
CO'S	COURSE OUTCOMES
CO1	Student will have knowledge to Analyze the particle size & acceptance angle using laser.
CO2	Student will be able to Apply the principle of ultrasonic interferometer
CO3	Student will be able to understand the principles of spectrometer grating
CO4	Students can Analyze the thermal conductivity of a bad conductor
CO5	Student will be able to Apply the elastic behavior of material
REGULATION & SEMESTER:	2017 - II
SUBJECT CODE & NAME:	HS8251 - Technical English
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Read various types of texts adapting different reading strategies
CO2	Write letters and reports effectively in formal and informal situations.
CO3	Speak confidently and communicate with others effectively in order to improve their interview skills.
CO4	Use the language perfectly without grammatical errors and by using a wide range of vocabulary.
CO5	Use the technical information properly according to business situations.
SUBJECT CODE & NAME:	MA8251- Engineering Mathematics - II
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	To understand the concept of Eigen values and Eigen vectors,

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	diagonalization of Matrix, symmetric matrices, positive definite matrices and similar matrices
CO2	To evaluate Gradient, Divergence and Curl of a Vector point functions and related identities.
CO3	To evaluate a Line, Surface and Volume integrals by using Gauss, Stokes and Green's Theorems and their verification.
CO4	To understand the concept of Analytic functions, conformal mapping and Complex integration
CO5	To understand the concept of Laplace Transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients
SUBJECT CODE & NAME:	PH8201 – Physics for civil engineering
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Understand the phase diagrams.
CO2	Understand the properties, preparation and applications of ferrous alloys
CO3	Understand the mechanical properties materials .
CO4	Understand properties and applications of the magnetic, dielectric and super conducting materials
CO5	Understand the properties, preparation methods and applications of new materials
SUBJECT CODE & NAME:	BE8251 Basic Electrical, Electronics and Instrumentation Engineering
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Understand electric circuits and working principle of electrical machines
CO2	understanding the concept of various electronic devices
CO3	choose appropriate instruments for electrical measurements for a specific application
SUBJECT CODE & NAME:	GE8291 Environmental Science and Engineering
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	To Know about the Scope and important of Environmental Science and values of Biodiversity.
CO2	Students will capable to identify Problems related to various Environmental Pollutions and its Control & Prevention.
CO3	Students will understand the Natural resources and sensible use of resources for sustainable lifestyles

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CO4	To acquire the knowledge about social problems related to energy and the environmental production.
CO5	To know about the importance of population explosion & family welfare programmer and application of information technology in environment.
SUBJECT CODE & NAME:	GE8292 Engineering Mechanics
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Illustrate the statics of particles in equilibrium
CO2	Analyze the rigid body in equilibrium
CO3	Evaluate the properties of surfaces and solids
CO4	Calculate dynamic forces exerted in rigid body
CO5	Determine the friction and its effects, rigid body dynamics
SUBJECT CODE & NAME:	GE8261 Engineering Practices Laboratory
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Fabricate carpentry components and pipe connections including plumbing works.
CO2	Use welding equipment to join the structures.
CO3	Carry out the basic machining operations
CO4	Make the sheet metal models
CO5	Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundry and fittings
CO6	Carry out basic home electrical works and appliances
CO7	Measure the electrical quantities
CO8	Elaborate on the components, gates, soldering practices.
SUBJECT CODE & NAME:	CE8211 Computer aided building drawing
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Ability to determine the speed characteristic of different building drawings
CO2	Ability to design drawing involving section and elevations
CO3	Ability to use procedure follow in design.

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REGULATION & SEMESTER:	2017 - III
SUBJECT CODE & NAME:	MA8353 Transforms and Partial Differential Equations
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Understand how to solve the given standard partial differential equations.
CO2	Solve differential equations using Fourier series analysis which plays a vital role in engineering applications.
CO3	Appreciate the physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations.
CO4	Understand the mathematical principles on transforms and partial differential equations would provide them the ability to formulate and solve some of the physical problems of engineering.
CO5	Use the effective mathematical tools for the solutions of partial differential equations by using Z transform techniques for discrete time systems.
SUBJECT CODE & NAME:	CE8301 Strength of Materials-I
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Apply basic equation of torsion in design of circular shafts and helical springs.
CO2	Determine shear force and bending moment in beam.
CO3	understanding the force of stress, strain and deformation of solids.
CO4	Derive
CO5	Calculate the pin jointed and space trusses.
SUBJECT CODE & NAME:	CE8302 Fluid Mechanics
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Apply Mathematical knowledge to predict the properties and characteristics of a fluid.
CO2	Analyse and calculate major and minor losses associated with pipe flow in piping networks.
CO3	Mathematically predict the nature of physical quantities
CO4	Critically analyse the performance of pumps
CO5	Critically analyse the performance of turbines

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SUBJECT CODE & NAME:	CE8351 Surveying
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Explain the uses of different surveying instruments and mapping
CO2	Compare the different measuring horizontal and vertical instrument.
CO3	Concept of astronomical surveying and methods to determine time, longitudinal, latitude and azimuth
CO4	Work on various methods of levelling
CO5	Methods and principle of modern surveying.
SUBJECT CODE & NAME:	CE8391 Construction materials
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Understanding the typical and potential applications of lime, cement and aggregate.
CO2	Compare the properties of most common and advanced building materials.
CO3	Able to explain the different types of placing and making of concrete elements.
CO4	Application of timber and other materials.
CO5	Methods and importance of modern material for construction.
SUBJECT CODE & NAME:	CE8392 Engineering Geology
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Understanding the methods of study on geological agencies.
CO2	Compare the properties of geological of rock structures.
CO3	Able to explain the different types of rock, their distribution and uses
CO4	Application of geological of rock structures.
SUBJECT CODE & NAME:	CE8311 Construction materials laboratory
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	The required knowledge in the area of testing of construction materials and components of construction elements.
SUBJECT CODE & NAME:	CE8361 Surveying laboratory
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	The required knowledge in the basic survey instruments, various engineering project and location of site etc.

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SUBJECT CODE & NAME:	HS8381 Interpersonal Skills / Listening & Speaking
CO'S	COURSE OUTCOMES
	Student will be able to,
CO1	Listen and respond appropriately.
CO2	Participate in group discussions
CO3	Make effective presentations
CO4	Participate confidently and appropriately in conversations both formal and informal

REGULATION & SEMESTER:	2017 - IV
COURSE CODE & NAME:	MA8491 Numerical Methods
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understand how to solve the given standard numerical methods
CO2	Solve differential equations using numerical methods analysis which plays a vital role in engineering applications.
CO3	Apply the numerical techniques of differentiation and integration for engineering problem.
CO4	Solve the partial and ordinary differential equations with initial and boundary condition by using certain techniques with engineering application.
COURSE CODE & NAME:	CE8401 Construction techniques and practices
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Follow the different construction techniques and structural system
CO2	The required knowledge in the construction of various types of super structures.
COURSE CODE & NAME:	CE8402 Strength of Materials-II
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Apply the strain energy principle
CO2	Determine the analysis of types of beams.
CO3	understanding the principal stress on structures.
CO4	Derive the various types of theory of failures
CO5	Calculate the unsymmetrical sections.

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COURSE CODE & NAME:	CE8403 Applied hydraulics engineering
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Apply Mathematical knowledge to predict the properties and characteristics of an open channels.
CO2	Analyze and calculate the various flows in steady state conditions
CO3	Mathematically predict the nature of flow in different cross section.
CO4	Critically analyses the performance of pumps
CO5	Critically analyses the performance of turbines
COURSE CODE & NAME:	CE8404 Concrete technology
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Explain different requirements of cement, aggregate and water for making concrete.
CO2	The concept and procedure of mix design as per IS methods.
CO3	Application and maintains of special concrete
CO4	Distinguish various methods of fresh and hardened state concrete and effects.
COURSE CODE & NAME:	CE8491 Soil mechanics
COS	COURSE OUTCOMES
	Student will be,
CO1	Able to understand the basics of soil mechanic and properties
CO2	Able to analyze characteristics of different types IS sieves
CO3	Able to explain the different types of soil solids
CO4	Ability to use the measurement equipment's of soil.
CO5	Apply the concept of testing of soil properties.
COURSE CODE & NAME:	CE8481 Strength of materials laboratory
COS	COURSE OUTCOMES
	Student will be able to,
CO1	The required knowledge in the testing of materials and components of structural elements.
COURSE CODE & NAME:	CE8461 Hydraulic Engineering Laboratory
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Ability to use the measurement flow in pipes and determine friction losses
CO2	Ability to do performance develop characteristics of pump and turbine

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COURSE CODE & NAME:	HS8461 ADVANCED READING AND WRITING
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Write different types of essays.
CO2	Write winning job applications.
CO3	Read and evaluate texts critically.
CO4	Display critical thinking in various professional contexts
REGULATION & SEMESTER:	2017 - V
COURSE CODE & NAME:	CE8501 Design of Reinforced cement concrete elements
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understanding the various design methodology for the design RC elements
CO2	Design the various types of slabs and staircase by limit state method
CO3	To analysis and design of footing, column design for axial, uniaxial and biaxial eccentric loading
COURSE CODE & NAME:	CE8502 Structural analysis-I
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understanding the concept of matrix stiffness methods and analysis of continuous beam, pin joined trusses and rigid plane frame
CO2	Analysis the continuous beams and rigid frame by slope deflection methods and by using strain energy methods
CO3	Solve problems for beams and sway, non-sway structures
COURSE CODE & NAME:	EN8491 Water supply Engineering
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understanding the water quality criteria and standard, their relation to public health
CO2	Describe the constructional and operational features of water supply system
CO3	Explain the structure of drinking water supply system, including water transport, treatment and distribution
CO4	Explain the types of grinding and other super finishing processes apart from gear manufacturing processes.

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COURSE CODE & NAME:	CE8591 Foundation Engineering
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understanding the site investigation, methods and sampling
CO2	Get knowledge on bearing capacity and testing methods
CO3	Design shallow foundation
CO4	Determine the load carrying capacity, settlement of pile foundation
CO5	Determine the earth pressure on retaining wall and analysis for stability
COURSE CODE & NAME:	CE8071 Disaster Management
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understand the different types of disaster, causes and their impact on environment and society.
CO2	Assess vulnerability and various methods of risk reduction measures as well as mitigation
CO3	Draw the hazard and vulnerability profile of India, scenarios in the Indian context, disaster damage assessment and management
COURSE CODE & NAME:	OAI551 Environmental and Agriculture
COS	COURSE OUTCOMES
	Student will be able to,
CO1	The of environment in the current practices of agriculture and concern of sustainability, especially in the context of climate change and emerging global issues
CO2	Ecological context of agriculture and its concern will be understand
COURSE CODE & NAME:	CE8511 Soil mechanics Laboratory
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Able to conduct test to determine both the index and engineering properties of soils and to characterize the soil based on their properties
COURSE CODE & NAME:	CE8512 Water and waste water analysis laboratory
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Quantity the pollutant concentration in water and wastewater
CO2	Suggest the types of treatment required and amount of dosage required for the treatment
CO3	Examine the conditions for the growth of micro- organism

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COURSE CODE & NAME:	CE8513 Survey camp
COS	COURSE OUTCOMES
CO1	The required knowledge in the basic survey instruments, various engineering project and location of site etc.
REGULATION & SEMESTER:	2017- VI
COURSE CODE & NAME:	CE8601 Design of steel structural elements
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understanding the concepts of various design philosophies of axial loaded column and column base connection
CO2	Design common bolted and welded connection for steel structure in tension members and design of laterally restrained and unrestrained steel beams.
COURSE CODE & NAME:	CE8602 Structural analysis-II
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understand Muller Breslau principle and draw the influence lines for statically indeterminate beams.
CO2	Analysis the three hinged ,two hinged and fixed arches.
CO3	Analysis the suspension bridge with stiffing girders.
CO4	Concept of plastic analysis and the method of analyzing beams and rigid frames.
COURSE CODE & NAME:	CE8603 Irrigation Engineering
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understand the methods and management of irrigation and methods of irrigation including canal irrigation
CO2	Get knowledge and skills on crop water requirement
CO3	Use of water management on irrigation system.
COURSE CODE & NAME:	CE8604 Highway Engineering
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Get knowledge on planning and alignment of highway
CO2	Geometric design of highway and design flexible and rigid pavement
CO3	Explain the procedure for highway construction materials, properties,

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2.6 Student Performance and Learning Outcomes



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admin@nsit.edu.in, www.nsit.edu.in

	testing methods.
CO4	Understand the concept of pavement management system, evaluation of distress and maintenance of pavement.
COURSE CODE & NAME:	EN8592 Wastewater Engineering
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understanding the water quality criteria and standard, their relation to public health
CO2	Describe the constructional and operational features of water supply system for disposal of sewage.
CO3	Explain the structure of drinking water supply system, including water transport, treatment and distribution
CO4	Explain the types of grinding and other super finishing processes apart from gear manufacturing processes.
CO5	
COURSE CODE & NAME:	CE8005 Air pollution and control Engineering
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understanding of the nature and characteristics of air pollutants, noise pollution.
CO2	Basic concept of air quality management
CO3	Ability to select control equipment
CO4	Ability to ensure, control and preventive measures.
COURSE CODE & NAME:	CE8611 Highway Engineering Laboratory
COS	COURSE OUTCOMES
	Student will be able to,
CO1	The required knowledge in the various pavement materials through relevant test.
COURSE CODE & NAME:	CE8612 Irrigation and Environmental Engineering Drawing
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Able to design and draw various units of Municipal water treatment plants and sewage treatment plants.
COURSE CODE & NAME:	HS8581 Professional communication
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Make effective presentation and group discussions

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CO2	Develop adequate soft skills required for the workplace
REGULATION & SEMESTER:	2017 - VII
COURSE CODE & NAME:	CE8701 Estimation, costing and valuation Engineering
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Estimate the quantities for building
CO2	Rate analysis for all building work, canal, Road and cost estimate
CO3	Understand types of specification, principles for report preparation, tender notices types.
CO4	Evaluate valuation for building and land.
COURSE CODE & NAME:	CE8702 Railway, Airport, Docks and Harbour Engineering
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understand the methods of route and design elements in Railway planning and construction.
CO2	Understand of planning techniques
CO3	Understanding of the various features in harbour engineering
CO4	Understanding of controlling system
COURSE CODE & NAME:	CE8703 Structural design and drawing
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Design and draw reinforced concrete cantilever and counterfort retaining wall
CO2	Design and draw flat slab as per code provision
CO3	Design and draw steel bridge and steel water tanks
CO4	Design and detail the various steel trusses and gantry girders.
COURSE CODE & NAME:	CE8012 Construction planning and scheduling
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Understand basic concept of construction planning
CO2	Schedule the construction activities
CO3	Forecast and control the cost in a construction
CO4	Understand the quality control and safety during construction
CO5	Organize information in centralized database management system
COURSE CODE & NAME:	OML751 Testing of Materials
COS	COURSE OUTCOMES

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	Student will be able to,
CO1	Identify suitable testing techniques to inspect industrial component
CO2	Ability to use the different techniques and know its application and limitations.
COURSE CODE & NAME:	CE8711 Creative and Innovation project
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology
COURSE CODE & NAME:	CE8712 Industrial training
COS	COURSE OUTCOMES
	Student will be able to,
CO1	the intricacies of implementation textbook knowledge into practice
CO2	The concept of developments and implementation of new techniques.

REGULATION & SEMESTER:	2017 - VIII
COURSE CODE & NAME:	GE8076 Professional Ethics in Engineering
COS	COURSE OUTCOMES
	Student will be able to,
CO1	Discuss the ethical issues related to engineering and realize the responsibilities and rights in the society
COURSE CODE & NAME:	CE8020 Maintenance, Repair and Rehabilitation of structures
COS	COURSE OUTCOMES
	Student will be able to,
CO1	The importance of maintenance and assessment method of distressed structures
CO2	The techniques for repair and protection methods
CO3	Repair, rehabilitation and retrofitting of structures and demolition methods.
COURSE CODE & NAME:	CE8811 Project Work
COS	COURSE OUTCOMES
CO1	Students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology

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