MEENAKSHI COLLEGE OF ENGINEERING

No-12, Vembuli Amman Koil Street, West K.K.Nagar,

Chennai – 600 078

DEPARTMENT OF CIVIL ENGINEERING

REGULATION – 2021

COURSE OUTCOMES

SEMESTER I

PROFESSIONAL ENGLISH I (HS3152)

CO1	To use appropriate words in a professional context
CO2	To gain understanding of basic grammatical structures and use them in right context.
CO3	To read and infer the denotative and connotative meanings of technical texts
CO4	To read and interpret information presented in tables, charts and other graphic forms
CO5	To write definitions, descriptions, narrations and essays on various topics

MATRICES AND CALCULUS (MA3151)

CO1	Use the matrix algebra methods for solving practical problems
CO2	Apply differential calculus tools in solving various application problems.
CO3	Able to use differential calculus ideas on several variable functions.
CO4	Apply different methods of integration in solving practical problems.
CO5	Apply multiple integral ideas in solving areas, volumes and other practical problems.

ENGINEERING PHYSICS (PH3151)

CO1	Understand the importance of mechanics
CO2	Express their knowledge in electromagnetic waves.
CO3	Demonstrate a strong foundational knowledge in oscillations, optics and lasers.
CO4	Understand the importance of quantum physics.
CO5	Comprehend and apply quantum mechanical principles towards the formation of energy bands.

ENGINEERING CHEMISTRY (CY3151)

CO1	To infer the quality of water from quality parameter data and propose suitable treatment methodologies to treat water.
CO2	To identify and apply basic concepts of nanoscience and nanotechnology in designing the synthesis of nanomaterials for engineering and technology applications.
CO3	To apply the knowledge of phase rule and composites for material selection requirements
CO4	To recommend suitable fuels for engineering processes and applications.
CO5	To recognize different forms of energy resources and apply them for suitable applications in energy sectors.

PROBLEM SOLVING AND PYTHON PROGRAMMING (GE3151)

CO1	Develop algorithmic solutions to simple computational problems.
CO2	Develop and execute simple Python programs.
CO3	Write simple Python programs using conditionals and looping for solving problems
CO4	Decompose a Python program into functions
CO5	Represent compound data using Python lists, tuples, dictionaries etc.
CO6	Read and write data from/to files in Python programs

PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY (GE3171)

CO1	Develop algorithmic solutions to simple computational problems
CO2	Develop and execute simple Python programs.
CO3	Implement programs in Python using conditionals and loops for solving problems.
CO4	Deploy functions to decompose a Python program.
CO5	Process compound data using Python data structures.
CO6	Utilize Python packages in developing software applications.

PHYSICS AND CHEMISTRY LABORATORY (BS3171)

PHYSICS LABORATORY

CO1	Understand the functioning of various physics laboratory equipment
CO2	Use graphical models to analyze laboratory data.
CO3	Use mathematical models as a medium for quantitative reasoning and describing physical reality
CO4	Access, process and analyze scientific information
CO5	Solve problems individually and collaboratively.

CHEMISTRY LABORATORY

CO1	To analyse the quality of water samples with respect to their acidity, alkalinity, hardness and DO.
CO2	To determine the amount of metal ions through volumetric and spectroscopic techniques
CO3	To analyse and determine the composition of alloys.
CO4	To learn simple method of synthesis of nanoparticles
CO5	To quantitatively analyse the impurities in solution by electroanalytical techniques''

ENGLISH LABORATORY (GE3172)

CO1	To listen to and comprehend general as well as complex academic information
CO2	To listen to and understand different points of view in a discussion
CO3	To speak fluently and accurately in formal and informal communicative contexts
CO4	To describe products and processes and explain their uses and purposes clearly and accurately
CO5	To express their opinions effectively in both formal and informal discussions

SEMESTER II

PROFESSIONAL ENGLISH II (HS3252)

CO1	To compare and contrast products and ideas in technical texts
CO2	To identify and report cause and effects in events, industrial processes through technical texts
CO3	To analyse problems in order to arrive at feasible solutions and communicate them in the written format
CO4	To present their ideas and opinions in a planned and logical manner
CO5	To draft effective resumes in the context of job search.

STATISTICS AND NUMERICAL METHODS (MA3251)

CO1	Apply the concept of testing of hypothesis for small and large samples in real life problems.
CO2	Apply the basic concepts of classifications of design of experiments in the field of agriculture.
CO3	Appreciate the numerical techniques of interpolation in various intervals and apply the numerical techniques of differentiation and integration for engineering problems.
CO4	Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations.
CO5	Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications.

PHYSICS FOR CIVIL ENGINEERING (PH3201)

CO1	Acquire knowledge about heat transfer through different materials, thermal performance of building and thermal insulation
CO2	Gain knowledge on the ventilation and air conditioning of buildings
CO3	Understand the concepts of sound absorption, noise insulation and lighting designs
CO4	Now about the processing and applications of composites, metallic glasses, shape memory alloys and ceramics
CO5	Get an awareness on natural disasters such as earth quake, cyclone, fire and safety measures

BASIC ELECTRICAL, ELECTRONICS AND INSTRUMENTATION ENGINEERING (BE3252)

CO1	Compute the electric circuit parameters for simple problems
CO2	Explain the concepts of domestics wiring and protective devices
CO3	Explain the working principle and applications of electrical machines
CO4	Analyze the characteristics of analog electronic devices
CO5	Explain the types and operating principles of sensors and transducers

ENGINEERING GRAPHICS (GE3251)

CO1	Use BIS conventions and specifications for engineering drawing.
CO2	Construct the conic curves, involutes and cycloid.
CO3	Solve practical problems involving projection of lines.
CO4	Draw the orthographic, isometric and perspective projections of simple solids
CO5	Draw the development of simple solids

ENGINEERING PRACTICES LABORATORY (GE3271)

CO1	Draw pipe line plan; lay and connect various pipe fittings used in common household plumbing work; Saw; plan; make joints in wood materials used in common household wood work.
CO2	Wire various electrical joints in common household electrical wire work.
CO3	Weld various joints in steel plates using arc welding work; Machine various simple processes like turning, drilling, tapping in parts; Assemble simple mechanical assembly of common household equipments; Make a tray out of metal sheet using sheet metal work.
CO4	Solder and test simple electronic circuits; Assemble and test simple electronic components on PCB.

BASIC ELECTRICAL, ELECTRONICS AND INSTRUMENTATION ENGINEERING LABORATORY (BE3252)

CO1	Use experimental methods to verify the Ohm's law and Kirchhoff's Law and to measure three phase power
CO2	Analyze experimentally the load characteristics of electrical machines
CO3	Analyze the characteristics of basic electronic devices
CO4	Use LVDT to measure displacement

COMMUNICATION LABORATORY PHYSICS LABORATORY (GE3272)

CO1	Speak effectively in group discussions held in a formal/semi-formal contexts.
CO2	Discuss, analyse and present concepts and problems from various perspectives to arrive at suitable solutions
CO3	Write emails, letters and effective job applications
CO4	Write critical reports to convey data and information with clarity and precision
CO5	Give appropriate instructions and recommendations for safe execution of tasks

SEMESTER III

TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS (MA3351)

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.

ENGINEERING MECHANICS (ME3351)

CO1	Illustrate the vectorial and scalar representation of forces and moments
CO2	Analyse the rigid body in equilibrium
CO3	Evaluate the properties of distributed forces
CO4	Determine the friction and the effects by the laws of friction
CO5	Calculate dynamic forces exerted in rigid body

FLUID MECHANICS (CE3301)

CO1	Demonstrate the difference between solid and fluid, its properties and behaviour in static conditions.
CO2	Apply the conservation laws applicable to fluids and its application through fluid kinematics and dynamics.
CO3	Formulate the relationship among the parameters involved in the given fluid phenomenon and to predict the performance of prototypes by model studies.
CO4	Estimate the losses in pipelines for both laminar and turbulent conditions and analysis of pipes connected in series and parallel.
CO5	Explain the concept of boundary layer and its application to find the drag force excreted by the fluid on the flat solid surface.

CONSTRUCTION MATERIALS AND TECHNOLOGY (CE3302)

CO1	Identify the good quality brick, stone and blocks for construction.
CO2	Recognize the market forms of timber, steel, aluminum and applications of various composite materials.
CO3	Identify the best construction and service practices such as thermal insulations and air conditioning of the building
CO4	Select various equipments for construction works conditioning of building
CO5	Understand the construction planning and scheduling techniques

WATER SUPPLY AND WASTEWATER ENGINEERING (CE3303)

CO1	Understand the various components of water supply scheme and design of intake structure and conveyance system for water transmission
CO2	Understand on the characteristics and composition of sewage, ability to estimate sewage generation and design sewer system including sewage pumping stations
CO3	Understand the process of conventional treatment and design of water and wastewater treatment system and gain knowledge of selection of treatment process and biological treatment process
CO4	Ability to design and evaluate water distribution system and water supply in buildings and understand the self-purification of streams and sludge and septage disposal methods.
CO5	Able to understand and design the various advanced treatment system and knowledge about the recent advances in water and wastewater treatment process and reuse of sewage

SURVEYING AND LEVELLING (CE3351)

CO1	Introduce the rudiments of various surveying and its principles.
CO2	Imparts knowledge in computation of levels of terrain and ground features
CO3	Imparts concepts of Theodolite Surveying for complex surveying operations
CO4	Understand the procedure for establishing horizontal and vertical control
CO5	Imparts the knowledge on modern surveying instruments

SURVEYING AND LEVELLING LABORATORY (CE3361)

CO1	Impart knowledge on the usage of basic surveying instruments like chain/tape, compass and levelling instruments
CO2	Able to use levelling instrument for surveying operations
CO3	Able to use theodolite for various surveying operations
CO4	Able to carry out necessary surveys for social infrastructures
CO5	Able to prepare planimetric maps

WATER SUPPLY AND WASTEWATER ANALYSIS LABORATORY (CE3311)

CO1	Calibrate and standardize the equipment
CO2	Collect proper sample for analysis
CO3	To know the sample preservation methods
CO4	To perform field oriented testing of water, wastewater
CO5	To perform coliform analysis

PROFESSIONAL DEVELOPMENT (GE3361)

CO1	Use MS Word to create quality documents, by structuring and organizing content for their day to day technical and academic requirements
CO2	Use MS EXCEL to perform data operations and analytics, record, retrieve data as per requirements and visualize data for ease of understanding
CO3	Use MS PowerPoint to create high quality academic presentations by including common tables, charts, graphs, interlinking other elements, and using media objects

SEMESTER IV

APPLIED HYDRAULICS ENGINEERING (CE3401)

CO1	Describe the basics of open channel flow, its classification and analysis of uniform flow in steady state conditions with specific energy concept and its application
CO2	Analyse steady gradually varied flow, water surface profiles and its length calculation using direct and standard step methods with change in water surface profiles due to change in grades
CO3	Derive the relationship among the sequent depths of steady rapidly varied flow and estimating energy loss in hydraulic jump with exposure to positive and negative surges.
CO4	Design turbines and explain the working principle
CO5	Differentiate pumps and explain the working principle with characteristic curves and design centrifugal and reciprocating pumps.

STRENGTH OF MATERIALS (CE3402)

CO1	Understand the concepts of stress and strain, principal stresses and principal planes.
CO2	Determine Shear force and bending moment in beams and understand concept of theory of simple bending.
CO3	Calculate the deflection of beams by different methods and selection of method for determining slope or deflection.
CO4	Analyze propped cantilever, fixed beams and continuous beams for external loadings and support settlements.
CO5	Determine the stresses due to Unsymmetrical bending of beams, locate the shear center, and study the various theories of failure

CONCRETE TECHNOLOGY (CE3403)

CO1	Understand the requirements of cement, aggregates and water for concrete
CO2	Select suitable admixtures for enhancing the properties of concrete
CO3	Design concrete mixes as per IS method of mix design
CO4	Determine the properties of concrete at fresh and hardened state.
CO5	Know the importance of special concretes for specific requirements.

SOIL MECHANICS (CE3404)

CO1	Demonstrate an ability to identify various types of soils and its properties, formulate and solve engineering Problems
CO2	Show the basic understanding of flow through soil medium and its impact of engineering solution
CO3	Understand the basic concept of stress distribution in loaded soil medium and soil settlement due to consolidation
CO4	Show the understanding of shear strength of soils and its impact of engineering solutions to the loaded soil medium and also will be aware of contemporary issues on shear strength of soils.
CO5	Demonstrate an ability to design both finite and infinite slopes, component and process as per needs and specifications.

HIGHWAY AND RAILWAY ENGINEERING (CE3405)

CO1	Plan a highway according to the principles and standards adopted in various institutions in India.
CO2	Design the geometric features of road network and components of pavement.
CO3	Test the highway materials and construction practice methods and know its properties and able to perform pavement evaluation and management.
CO4	Understand the methods of route alignment and design elements in railway planning and constructions.
CO5	Understand the construction techniques and maintenance of track laying and railway stations

ENVIRONMENATL SCIENCES AND SUSTAINABILITY (GE3451)

CO1	To recognize and understand the functions of environment, ecosystems and biodiversity and their conservation
CO2	To identify the causes, effects of environmental pollution and natural disasters and contribute to the preventive measures in the society.
CO3	To identify and apply the understanding of renewable and non-renewable resources and contribute to the sustainable measures to preserve them for future generations.
CO4	To recognize the different goals of sustainable development and apply them for suitable technological advancement and societal development.
CO5	To demonstrate the knowledge of sustainability practices and identify green materials, energy cycles and the role of sustainable urbanization.

HYDRAULIC ENGINEERING LABORATORY (CE3411)

CO1	Apply Bernoulli equation for calibration of flow measuring devices.
CO2	Measure friction factor in pipes and compare with Moody diagram
CO3	Determine the performance characteristics of rotodynamic pumps.
CO4	Determine the performance characteristics of positive displacement pumps.
CO5	Determine the performance characteristics of turbines.

MATERIALS TESTING LABORATORY (CE3412)

CO1	Determine the mechanical properties of steel.
CO2	Determine the physical properties of cement
CO3	Determine the physical properties of fine and coarse aggregate
CO4	Determine the workability and compressive strength of concrete.
CO5	Determine the strength of brick and wood.

SOIL MECHANICS LABORATORY (CE3413)

CO1	Conduct tests to determine the index properties of soils
CO2	Determine the insitu density and compaction characteristics.
CO3	Conduct tests to determine the compressibility, permeability and shear strength of soils.
CO4	Understand the various tests on Geosynthetics.

SEMESTER V

DESIGN OF REINFORCED CONCRETE STRUCTURAL ELEMENTS (CE3501)

CO1	Know the various design concepts and design RC rectangular beams by working stress and limit state methods
CO2	Understand the design of flanged beams, design for shear and torsion, and anchorage and development length.
CO3	Design a RC slabs and staircase and draw the reinforcement detailing.
CO4	Design short columns for axial, uni-axial and bi-axial eccentric loadings
CO5	Design wall footings, isolated footings and combined rectangular footing.

STRUCTURAL ANALYSIS – I (CE3502)

CO1	Analyze the pin-jointed plane and space frames
CO2	Analyse the continuous beams and rigid frames by slope defection method.
CO3	Understand the concept of moment distribution and analysis of continuous beams and rigid frames with and without sway
CO4	Analyse the indeterminate pin jointed plane frames continuous beams and rigid frames using matrix flexibility method
CO5	Understand the concept of matrix stiffness method and analysis of continuous beams, pin jointed trusses and rigid plane frames.

FOUNDATION ENGINEERING (CE3503)

CO1	Graduate will demonstrate an ability to plan and execute a detailed site investigation to select geotechnical design parameters and type of foundation
CO2	Graduate will demonstrate an ability to design shallow foundations, its component or process as per the needs and specifications.
CO3	Graduate will demonstrate an ability to design combined footings and raft foundations, its component or process as per the needs and specifications.
CO4	Graduate will demonstrate an ability to design deep foundations, its component or process as per the needs and specifications.
CO5	Graduate will demonstrate an ability to design retaining walls, its component or process as per the needs and specifications.

ADVANCED CONSTRUCTION TECHNIQUES (CE3013)

CO1	Understand the modern construction techniques used in the sub structure construction.
CO2	Demonstrate knowledge and understanding of the principles and concepts relevant to super structure construction for buildings
CO3	Understand the concepts used in the construction of special structures
CO4	Knowledge on Various strengthening and repair methods for different cases
CO5	Identify the suitable demolition technique for demolishing a building

GROUND IMPROVEMENT TECHNIQUES (CE3016)

CO1	Identify and evaluate the deficiencies in the deposits of the given project area and improve its characteristics by hydraulic modifications
CO2	Improve the ground characteristics by mechanical modifications using various method and design the system
CO3	Improve the ground characteristics by physical modifications using various method and design the system
CO4	Improve the characteristics of soils by various reinforcement techniques and design
CO5	Analyse the ground and decide the suitable chemical method for improving its characteristics

URBAN PLANNING AND DEVELOPMENT (CE3027)

CO1	Understand the basic issues and meaning of terminologies in urban planning
CO2	Understand the different types of theories of urban planning and city development.
CO3	Understand the different types of plan, their strategies and their preparation process.
CO4	Comprehend the planning standards, evaluate the constraints and the financial mechanism
CO5	Knowledge on various town and country planning acts and their functions.

DISASTER RISK REDUCTION AND MANAGEMENT (MX3084)

CO1	To impart knowledge on the concepts of Disaster, Vulnerability and Disaster Risk reduction (DRR)
CO2	To enhance understanding on Hazards, Vulnerability and Disaster Risk Assessment prevention and risk reduction
CO3	To develop disaster response skills by adopting relevant tools and technology
CO4	Enhance awareness of institutional processes for Disaster response in the country
CO5	Develop rudimentary ability to respond to their surroundings with potential Disaster response in areas where they live, with due sensitivity

HIGHWAY ENGINEERING LABORATORY (CE3511)

CO1	Characterize Pavement Aggregate through relevant test.
CO2	Ascertain the Quality of Bitumen.
CO3	Determine the Optimum Binder Content Using Marshall Method.
CO4	Evaluate the Consistency and Properties of Bitumen
CO5	Determine the Bitumen Content in the Bituminous Mixes

SURVEY CAMP (2 weeks) [CE3512]

CO1	Handle the modern surveying instruments like Total station and GPS
CO2	Apply modern surveying techniques in field to establish horizontal control.
CO3	Understand the surveying techniques in field to establish vertical control
CO4	Apply different survey adjustment techniques.
CO5	Carry out different setting out works in the field

SEMESTER VI

DESIGN OF STEEL STRUCTURAL ELEMENTS (CE3601)

CO1	Recognize the design philosophy of steel structures and identify the different failure modes of bolted and welded connections, and determine their design strengths
CO2	Select the most suitable section shape and size for tension and compression members and beams according to specific design criteria
CO3	Apply the principles, procedures and current code requirements to the analysis and design of steel tension members, columns, column bases and beams
CO4	Identify and compute the design loads on Industrial structures, and gantry girder
CO5	Find out ultimate load of steel beams and portal frames using plastic analysis

STRUCTURAL ANALYSIS – II (CE3602)

CO1	Draw influence lines for statically determinate structures and calculate critical stress resultants.
CO2	Understand Muller Breslau principle and draw the influence lines for statically indeterminate beams
CO3	Analyse three hinged, two hinged and fixed arches
CO4	Analyse the suspension bridges with stiffening girders
CO5	Analyse rigid frames by approximate methods for gravity and horizontal loads.

ENGINEERING GEOLOGY (AG3601)

CO1	Knowing the internal structure of earth and its relation to earthquakes. Landforms created by various geological agents and their importance in civil engineering
CO2	Getting knowledge on various minerals and rocks that can be used as construction materials and road aggregates. In addition, testing the suitability of rocks for foundation purposes.
CO3	Studying various geological structures and their impact in engineering constructions. Further, learning the geomechanical properties of rocks and their significance in engineering projects.
CO4	Gaining knowledge on the role of geological mapping, remote sensing and geophysics for surface and subsurface investigations. In addition, students will also gain knowledge on borehole logging techniques and their applications in civil engineering
CO5	Applying geological knowledge for designing and constructing major civil engineering structures, and also mitigating various geological hazards such as earthquakes, landslides and tsunamis

REHABILITATION/HERITAGE RESTORATION (CE3005)

CO1	Know the importance of inspection and maintenance.
CO2	Study the Impacts of cracks, corrosion and climate on structures.
CO3	Know about various special concretes
CO4	Understand the testing techniques and various protection measures
CO5	Know the Repair of structures and Restoration of Heritage structures

AIRPORTS AND HARBOUR (CE3025)

CO1	Gain an insight on the planning and site selection of Airport Planning and design
CO2	Knowledge on Design of various Airport components
CO3	Analyze and design the elements for orientation of runways and passenger facility systems
CO4	Understand the various features in Harbours and Ports, their construction, coastal protection works
CO5	Knowledge on various Environmental Regulations and Acts

ENVIRONMENT HEALTH AND SAFETY (CCE332)

CO1	Need for EHS in industries and related Indian regulations
CO2	Various types of Health hazards, effect, assessment and control methods
CO3	Various safety systems in working environments
CO4	The methodology for preparation of Emergency Plans and Accident investigation
CO5	EHS Management System and its elements

INDUSTRIAL SAFETY (MX3089)

CO1	Understand the basic concept of safety
CO2	Obtain knowledge of Statutory Regulations and standards.
CO3	Know about the safety Activities of the Working Place
CO4	Analyze on the impact of Occupational Exposures and their Remedies
CO5	Obtain knowledge of Risk Assessment Techniques.

BUILDING DRAWING AND DETAILING LABORATORY (CE3611)

CO1	Draft the plan, elevation and sectional view of the load bearing and framed buildings
CO2	Draw the structural detailing of RCC elements
CO3	Draw the structural detailing of RCC water tanks, footings and retaining walls
CO4	Draw the structural detailing of steel structures
CO5	Draft the structural detailing of Industrial structures

SEMESTER VII

ESTIMATION, COSTING AND VALUATION ENGINEERING (CE3701)

CO1	Gain knowledge on types of contracts
CO2	Understand types of specifications, principles for report preparation, tender notices types.
CO3	Rate Analysis for all Building works, canals, and Roads and Cost Estimate
CO4	Estimate the quantities for buildings
CO5	Evaluate valuation for building and land.

HYDROLOGY AND WATER RESOURCES ENGINEERING (AI3404)

CO1	Define the hydrological processes and their integrated behaviour in catchments
CO2	Apply the knowledge of hydrological processes to address basin characteristics, runoff and hydrograph
CO3	Explain the concept of hydrological extremes and its management strategies
CO4	Describe the principles of storage reservoirs
CO5	Understand and apply the concepts of groundwater management

HUMAN VALUES AND ETHICS (GE3791)

CO1	Identify the importance of democratic, secular and scientific values in harmonious functioning of social life
CO2	Practice democratic and scientific values in both their personal and professional life.
CO3	Find rational solutions to social problems
CO4	Behave in an ethical manner in society
CO5	Practice critical thinking and the pursuit of truth.

TOTAL QUALITY MANAGEMENT (GE3752)

CO1	Ability to apply TQM concepts in a selected enterprise
CO2	Ability to apply TQM principles in a selected enterprise
CO3	Ability to understand Six Sigma and apply Traditional tools, New tools, Benchmarking and FMEA
CO4	Ability to understand Taguchi's Quality Loss Function, Performance Measures and apply QFD, TPM, COQ and BPR.
CO5	Ability to apply QMS and EMS in any organization.

URBAN AGRICULTURE (OAI351)

CO1	Demonstrate the principles behind crop production and various parameters that influences the crop growth on roof tops
CO2	Explain different methods of crop production on roof tops
CO3	Explain nutrient and pest management for crop production on roof tops
CO4	Illustrate crop water requirement and irrigation water management on roof tops
CO5	Explain the concept of waste management on roof tops

INDUSTRIAL SAFETY (OPE353)

CO1	Describe, with example, the common work-related diseases and accidents in occupational setting
CO2	Name essential members of the Occupational Health team
CO3	What roles can a community health practitioners play in an Occupational setting to ensure the protection, promotion and maintenance of the health of the employee

SEMESTER VIII

PROJECT WORK/INTERNSHIP (CE3811)

CO1	Identify civil engineering problems reviewing available literature.
CO2	Identify appropriate techniques to analyze complex civil engineering problems
CO3	Apply engineering and management principles through efficient handling of Project have a clear idea of his/her area of work and they are in a position to carry out the work in a systematic way.