COURSE OUTCOMES

(R 2013)

Branch:B.E. Civil Engineering

Course Code: C101 Course Name:HS6151 Technical English – I

C101.1	Read different genres of texts adopting various reading strategies.
C101.2	Write cohesively and coherently and flawlessly avoiding grammatical errors, using a wide vocabulary range, organizing their ideas logically on a topic.
C101.3	Listen/view and comprehend different spoken discourses/excerpts in different accents.
C101.4	Speak clearly, confidently, comprehensibly.
C101.5	Communicate with one or many listeners using appropriate communicative strategies.

Course Code: C102 Course Name: MA6151 Mathematics – I

C102.1	Use both the limit definition and rules of differentiation to differentiate functions
C102.2	Apply differentiation to solve maxima and minima problems.
C102.3	Evaluate integrals both by using Riemann sums and by using the Fundamental Theorem of Calculus.
C102.4	Apply integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables.
C102.5	Apply various techniques in solving differential equations.

Course Code:C103 Course Name: PH6151 Engineering Physics – I

C103.1	Acoustics, Production and the applications of Ultrasonics in Engineering and Medical Fields.
C103.2	Interference, different types of lasers and its application in various fields.
C103.3	Fiber optics and optical fiber and its applications.
C103.4	Development of quantum mechanics and its necessary, wave equations and its applications, X - Ray.
C103.5	Crystallography and can able to calculate the crystal parameters

Course Code: C104 Course Name:CY6151 Engineering Chemistry I

C104.1	To make the students conversant with basics of polymer chemistry.
C104.2	To make the student acquire sound knowledge of second law of thermodynamics and second law based derivations of importance in engineering applications in all disciplines
C104.3	To acquaint the student with concepts of important photophysical and photochemical processes and spectroscopy.
C104.4	To develop an understanding of the basic concepts of phase rule and its applications to single and two component systems and appreciate the purpose and significance of alloys.
C104.5	To acquaint the students with the basics of nano materials, their properties and applications.

Course Code: C105 Course Name:GE6151 Computer Programming

C105.1	Apply good programming design methods for program development.
C105.2	Write and execute C programs for simple applications
C105.3	Acquire programming knowledge on arrays and strings
C105.4	Develop programs using functions and pointers
C105.5	Knowledge on programs using structures and unions

Course Code: C106 Course Name:GE6152 Engineering graphics

C106.1	Perform free hand sketching of basic geometrical constructions and multiple views of objects.
C106.2	Do orthographic projection of lines and plane surfaces.
C106.3	Draw projections and solids and development of surfaces.
C106.4	Prepare isometric and perspective sections of simple solids.
C106.5	Demonstrate computer aided drafting.

Course Code: C107 Course Name:GE6161 Computer Practices laboratory

C107.1	Apply good programming design methods for program development.
C107.2	Design and implement C programs for simple applications.
C107.3	Develop recursive programs.
C107.4	Document creation,text manipulaation with scientific notation
C107.5	Table creation,Table formatting and conversion

Course Code: C108 Course Name:GE6162 Engineering Practices Laboratory

C108.1	Ability to fabricate carpentry components and pipe connections including plumbing works
C108.2	Ability to use welding equipments to join the structures.
C108.3	Ability to fabricate electrical and electronics circuits.
C108.4	Study of plumbing and carpentry components of residential and industrial buildings. Safety aspects.
C108.5	Preparation of welding , basic machining and sheet metal work

Course Code: C109 Course Name:GE6163 Physics and Chemistry Laboratory I

C109.1	To provide the basic practical exposure to all the engineering and technological streams in the field of physics. .
C109.2	The students will be outfitted with hands-on knowledge in the quantitative chemical analysis of water quality related parameters.
C109.3	The students are able to know about the water containing impurities and some physical parameters.
C109.4	To gain the knowledge about light, sound, laser, fiber optics and magnetism.

C109.5	To develop the knowledge of conductometric titration and viscometry

Course Code: C110 Course Name:HS6251 Technical English II

C110.1	Read different genres of texts, infer implied meanings and critically analyse and evaluate them for ideas as well as for method of presentation.
C110.2	Write effectively and persuasively and produce different types of writing such as narration, description, exposition and argument as well as creative, critical, analytical and evaluative writing.
C110.3	Listen/view and comprehend different spoken excerpts critically and infer unspoken and implied meanings.
C110.4	Speak convincingly, express their opinions clearly.
C110.5	Initiate a discussion, negotiate, argue using appropriate communicative strategies.

Course Code: C111 Course Name: MA6251 Mathematics II

C111.1	Eigen values and eigenvectors, diagonalization of a matrix, Symmetric matrices, Positive definite matrices and similar matrices.
C111.2	Gradient, divergence and curl of a vector point function and related identities.
C111.3	Evaluation of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification.
C111.4	Analytic functions, conformal mapping and complex integration.
C111.5	Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients.

Course Code: C112 Course Name:PH6251ENGINEERING PHYSICS – II

C112.1	To make the students conversant with boiler feed water requirements, related problem and water treatment techniques.
C112.2	Semiconductors, carrier concentration of semiconductors, Hall effect and semiconductor devices.
C112.3	Types of magnetic materials, ferro magnetic materials, magnetic storage devices, Super conductors and their properties and applications.
C112.4	Dielectrics, properties and its applications, ferro electricity.
C112.5	Modern engineering materials, Nano materials and Carbon nano tubes.

Course Code: C113 Course Name CY6251 ENGINEERING CHEMISTRY - II

C113.1	To make the students conversant with boiler feed water requirements, related problem and water treatment techniques.
C113.2	Principles of electrochemical reactions, redox reactions in corrosion of materials and methods for corrosion prevention and protection of materials.
C113.3	Principles and generation of energy in batteries, nuclear reactors, solar cells, wind mills and fuel cells.
C113.4	Preparation, properties and applications of engineering materials.
C113.5	Types of fuels, calorific value calculations, manufacture of solid, liquid and gaseous fuels.

Course Code: C114 Course Name:GE6252 BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

C114.1	Analyze DC and AC circuits using basic laws.
C114.2	Understand the construction, working principle, EMF equation of DC machines and single phase transformer
C114.3	Understand the fundamentals of semiconductor and applications.
C114.4	Understand the construction, working principle of an digital electronics.
C114.5	Understand the construction, working principle of an amplitude and frequency modulations

Course Code: C115 Course Name:GE6253 ENGINEERING MECHANICS

C115.1	Understand the vectorial and scalar representation of forces and moments
C115.2	Analyse the problems in static equilibrium of particles and rigid bodies both in two dimensions and also in three dimensions.
C115.3	Evaluate various sectional properties like centroid, moment of inertia.
C115.4	Understand the laws of motion, the kinematics of motion and the interrelationship.
C115.5	Comprehend the effect of friction on equilibrium.

Course Code: C116 Course Name:GE6261 COMPUTER AIDED DRAFTING AND MODELING LABORATORY

C116.1	To create 2D and 3D models
C116.2	Drawing plan of residential building
C116.3	Drawing isometric projection of simple objects
C116.4	Drawing a simple steel truss

Course Code: C117 Course Name:GE6262 Physics and Chemistry laboratory II

C117.1	To provide the basic practical exposure to all the engineering and technological streams in the field of physics. .
C117.2	To provide the basic practical exposure to all the engineering and technological streams in the field of chemistry.
C117.3	The students are able to know about the water containing impurities and some physical parameters.
C117.4	To gain the knowledge about properties of matter, semiconductors and solar cells
C117.5	To develop the knowledge of spectrophotometry.

Course Code: C201 Course Name:MA6351 TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS

C201.1	Understand how to solve the given standard partial differential equations.
C201.2	Solve differential equations using Fourier series analysis which plays a vital role in engineering applications.
C201.3	Appreciate the physical significance of Fourier series techniques in solving one and two dimensional heat flow problems and one dimensional wave equations.
C201.4	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.
C201.5	Use the effective mathematical tools for the solutions of partial differential equations by using Z transform techniques for discrete time systems.

Course Code: C202 Course Name:GE6351 ENVIRONMENTAL SCIENCE AND ENGINEERING

C202.1	Understand the fundamentals of environmental pollution.
C202.2	Public awareness of environmental is at infant stage.
C202.3	Ignorance and incomplete knowledge has lead to misconceptions.
C202.4	Development and improvement in std. of living has lead to serious environmental disasters.

C202.5	Demonstrate knowledge of contemporary environmental issues.

Course Code: C203 Course Name: CE6301 ENGINEERING GEOLOGY

C203.1	Will be able to understand the importance of geological knowledge such as earth,earthquake, volcanism and the action of various geological agencies.
C203.2	Will get basic knowledge on properties of minerals.
C203.3	Gain knowledge about types of rocks, their distribution and uses
C203.4	Will understand the methods of study on geological structure.
C203.5	Will understand the application of geological investigation in projects such as dams,tunnels, bridges, roads, airport and harbor.

Course Code: C204 Course Name:CE6302 MECHANICS OF SOLIDS

C204.1	Thorough understanding of the fundamental concepts of stress and strain in mechanics of solids and structures.
C204.2	To determine shear forces, bending moments and axial forces.
C204.3	To determine the deflection of determinate beams
C204.4	To understand the effect of torsion on shafts and springs
C204.5	To analyse a complex two dimensional state of stress and plane trusses

Course Code: C205 Course Name:CE6303 MECHANICS OF FLUIDS

C205.1	Get a basic knowledge of fluids in static, kinematic and dynamic equilibrium
C205.2	Understand and solve the problems related to equation of motion.
C205.3	Gain knowledge about dimensional and model analysis.
C205.4	Learn types of flow and losses of flow in pipes.
C205.5	Understand and solve the boundary layer problems.

Course Code: C206 Course Name: CE6304 SURVEYING

C206.1	The use of various surveying instruments and mapping
C206.2	Measuring horizontal angle and vertical angle using different instruments
C206.3	Methods of levelling and setting levels with different instruments; base line measurements
C206.4	Concepts of astronomical surveyinjg and methods to determine the time, longitude, latitude and azimuth
C206.5	Concept and principle of modern surveying

Course Code: C207 Course Name:CE6311 SURVEY PRACTICAL I

C207.1	Students completing this course would have acquired practical knowledge on handling basic survey instruments including leveling and development of contour map of given area.
C207.2	Handle the conventional surveying equipments such as chain, tape, compass, plain table and theodolite in the field of civil engineering
C207.3	Undergo traverse using various instruments and use the theodolite effectively for various apllications
C207.4	Plot LS,CS and contour using levelling instruments
C207.5	Do lay out preparation using theodolite

Course Code: C208 Course Name:CE6312 COMPUTER AIDED BUILDING DRAWING

C208.1	Have fundamental understanding of 2D and 3D views of buildings
C208.2	Understand the different views of the components of building
C208.3	Familiarize with standard symbols and sign conventions suitably
C208.4	Understand the structures with North light roof truss
C208.5	Create plan, section and elevation of different buildings

Course Code: C209 Course Name:MA6459 Numerical Methods

C209.1	Understand the basic concepts and techniques of solving algebraic and transcendental equations
C209.2	Appreciate the numerical techniques of interpolation and error approximations in various intervals in real life situations.
C209.3	Apply the numerical techniques of differentiation and integration for engineering problems.
C209.4	Understand the basic concepts and techniques of solving algebraic and transcendental equations
C209.5	Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications.

Course Code: C210 Course Name:CE6401 CONSTRUCTION MATERIALS

C210.1	Compare the properties of most common and advanced building materials
C210.2	Understand the typical and potential applications of lime, cement and aggregates
C210.3	Know the production of concrete and also the method of placing and making of concrete elements
C210.4	Understand the applications of timbers and other materials
C210.5	Understand the importance of modern material for construction

Course Code: C211 Course Name:CE6402 STRENGTH OF MATERIALS

C211.1	Determine the strain energy and compute the deflection of determinate beams, frames and trusses using energy principles.
C211.2	Analyze propped cantilever, fixed beams and continuous beams using theorem of three moment equation for external loadings and support settlements.
C211.3	Find the load carrying capacity of columns and stresses induced in columns and cylinders
C211.4	Determine principal stresses and planes for an element in three dimensional state of stress and study various theories of failure
C211.5	Determine the stresses due to Unsymmetrical bending of beams, locate the shear center, and find the stresses in curved beams.

Course Code: C212 Course Name:CE6403 APPLIED HYDRAULIC ENGINEERING

C212.1	Apply their knowledge of fluid mechanics in addressing problems in open channels
C212.2	To provide knowlege on designing a most economical section of various shapes in uniform flow

C212.3	To understand the behaviour of various types of non uniform channel flows and their practical application
C212.4	Understand the principles, working and application of turbines.
C212.5	Understand the principles, working and application of pumps.

Course Code: C213 Course Name:CE6404 SURVEYING II

C213.1	Understand the advantages of electronic surveying
C213.2	Advantages of electronic surveying over conventional surveying methods
C213.3	Understand the working principle of GPS
C213.4	Understand the components, signal structure, and error sources of GPS
C213.5	Understand various GPS surveying methods and processing techniques used in GPS observation

Course Code: C214 Course Name:CE6405 SOIL MECHANICS

C214.1	Classify the soil and assess the engineering properties based on index properties.
C214.2	Assess the permeability characteristics of soil and understand the stress concept in soils.
C214.3	understand and identify the stress distribution in soils using different theories and to understand the behaviors of soil due to setlement.
C214.4	understand the concept of shear strength of soil using different methods.
C214.5	Analyze the concept of finite and infinite soil and to understand the stability behaviors of soils.

Course Code: C215 Course Name:CE6411 STRENGTH OF MATERIALS LABORATORY

C215.1	The students will have the required knowledge in the area of testing of materials and components of structural elements experimentally.
C215.2	Apply the concepts of mechanics for determining stresses and strains from the member forces.
C215.3	Do problems by knowing the effects of axial loads, bending, shear and torsion on structural components. And Feel physically the behavior of materials and structural elements including distribution of stresses, strains, deformations and failure modes.
C215.4	Determine the behavior of structural elements such as bars, beams and columns subjected to tension, compression, shear, bending and torsion by means of experiments.
C215.5	And Feel physically the behavior of materials and structural elements including distribution of stresses, strains, deformations and failure modes.

Course Code: C216 Course Name:CE6412 HYDRAULIC ENGINEERING LABORATORY

C216.1	The students will be able to measure flow in pipes and determine frictional losses.
C216.2	The students will be able to develop characteristics of pumps and turbines.
C216.3	Determine the flow in pipes and open channels.
C216.4	Analyze the major and minor losses in pipes. And Select an appropriate pump for a specific application.
C216.5	Understand the impact of jet on vanes and to compute their efficiency.Select a suitable type of turbine for the given situation.

Course Code: C217 Course Name:CE6413 SURVEY PRACTICAL II

C217.1	Students completing this course would have acquired practical knowledge on handling survey instruments like Theodolite, Tacheometery and Total station and haveadequate knowledge to carryout Triangulation and Astronomical surveying including general field marking for various engineering projects and curves setting.
C217.2	Determine the heights distances and gradient using trignometric methods
C217.3	Have adequate knowledge to carryout Triangulation and Astronomical surveying including general field marking for various engineering projects and curves setting.
C217.4	Calculate the height of inaccessible point by system of tacheometry calculate the azimuth of a line by observation of sun
C217.5	Apply field procedures in setting out of a curve and Use modern surveying instruments like total station and GPS

Course Code: C301 Course Name: CE6501 STRUCTURAL ANALYSIS I

C301.1	Analyse the internal forces in the member by virtual work method (Truss, frame)
C301.2	Analyze the moving load for determinate and indeterminate structures by using influence line diagram
C301.3	Knowledge on various types of arches , their radial shear and normal thrust
C301.4	To analyse truss, beam, frame by slope deflection method
C301.5	To analyse truss, beam, frame by moment distribution method

Course Code: C302Course Name: CE6502 FOUNDATION ENGINEERING

C302.1	Knowledge on the various steps and methods involved in site investigation and soil exploration.
C302.2	Able to analyze stress distribution for a given loading on bearing capacity and settlement for different types of soil under different loading conditions
C302.3	Ability to Analyze and calculate Knowledge on different types of foundation and pressure distribution on foundation.
C302.4	Gain knowledge on pile foundation methods and and to design pile foundation due to settlements.
C302.5	Ability to gain knowledge on theories of failures plane and to analyze and to design the earth pressure on retaining wall.

Course Code: C303Course Name: CE6503 ENVIRONMENTAL ENGINEERING I

C303.1	Acquire knowledge on Basic principles of water supply Engineering and to identify appropriate unit operations and processes &exposure to different conveyance system of water
C303.2	Gain knowledge on intake structures and materials used for the water supply systems
C303.3	Knowledge on water treatment process and to design the treatment methods.
C303.4	Knowledge on advance water treatment and membrane systems
C303.5	The ability to analysis the methods of water distribution network

Course Code: C304 Course Name: CE6504 HIGHWAY ENGINEERING

C304.1	Overview with respect to highway Planning, Alignment and road development
C304.2	Knowledge on geometric Design of highway
C304.3	Able to design flexible and Rigid pavements
C304.4	Gain Knowledge on Highway Construction materials, Properties and testing methods
C304.5	Understand the concept of pavement management system, evaluation of distress and maintenance of Pavements

Course Code: C305 Course Name: CE6505 DESIGN OF REINFORCED CONCRETE ELEMENTS

C305.1	Understand the general mechanical behavior of reinforced concrete , Be able to identify and apply the applicable industry design codes and methods relevant to the design of reinforced concrete member
C305.2	Be able to analyze and design reinforced concrete members in flexure
C305.3	Be able to analyze and design reinforced concrete members in shear and compression
C305.4	Be able to perform design of columns
C305.5	Be able to perform design of footings and stair cases

Course Code: C306 Course Name: CE6506 CONSTRUCTION TECHNIQUES, EQUIPMENT AND PRACTICE

C306.1	Acquire knowledge on fundamentals of concrete technology.
C306.2	Awareness on construction practice in the civil field.
C306.3	Impart the knowledge of sub structure construction.
C306.4	Impart the knowledge of super structure construction.
C306.5	Gain Knowledge on selection of Best suitable Equipments for Respective Construction

Course Code: C307 Course Name: GE6674COMMUNICATION AND SOFT SKILLS- LABORATORY BASED

C307.1	Take international examination such as IELTS and TOEFL
C307.2	Make presentations and Participate in Group Discussions.
C307.3	Successfully answer questions in interviews.
C307.4	Improve the active and passive vocabulary
C307.5	Familiarize students with different rhetorical functions of scientific English

Course Code: C308 Course Name: CE6511SOIL MECHANICS LABORATORY

C308.1	Students know the techniques to determine index properties and engineering properties such as shear strength, compressibility and permeability by conducting appropriate tests.
C308.2	Awareness of using California Bearing ratio
C308.3	Knowledge on grain size distribution
C308.4	Impart the knowledge of in situ density and compaction characteristics
C308.5	Gain knowledge on Engineering properties

Course Code: C309 Course Name: CE6512 SURVEY CAMP

C309.1	Handle the conventional surveying equipments such as chain, tape, compass, plain table and theodolite in the field of civil engineering.
C309.2	Undergo traverse using various instruments and to Plot LS,CS and contour using levelling instruments
C309.3	Do lay out preparation using theodolite
C309.4	calculate the azimuth of a line by observation of sun
C309.5	Use modern surveying instruments like total station and GPS

Course Code: C310 Course Name: CE6601 DESIGN OF REINFORCED CONCRETE & BRICK MASONRY STRUCTURES

C310.1	Design various types of retaining walls under various loading conditions.
C310.2	Design and detailing of different types of water tanks along with the staging and foundation.
C310.3	Attain sufficient knowledge of design for staircases, flat slabs and reinforced concrete walls and gain knowledge about the principles of design of mat foundation, box culvert and road bridges.
C310.4	Apply the yield line theory for design of square, rectangular, circular and triangular slabs.
C310.5	Design axially and eccentrically loaded brick walls based on the knowledge gained for various loading conditions.

Course Code: C311 Course Name: CE6602 STRUCTURAL ANALYSIS II

C311.1	Analyse statically indeterminate structures by imposing boundary conditions on flexibility matrix.
C311.2	Form the element stiffness matrices and assemble the structure stiffness matrix for solving indeterminate problems.
C311.3	Apply the concept of finite element method to structural analysis.
C311.4	Employ plastic analysis to calculate the collapse loads for beams and frames.
C311.5	Determine the member forces in suspension bridges and space truss

Course Code: C312 Course Name: CE6603 DESIGN OF STEEL STRUCTURES

C312.1	Gain knowledge on limit state design concepts and joints.
C312.2	Design of tension members.
C312.3	Design of compression members.
C312.4	Get trained with design of beams.
C312.5	Design components of steel trusses such as purlins and gantry girders.

Course Code: C313 Course Name: CE6604 RAILWAYS,AIRPORTS & HARBOUR ENGINEERING

C313.1	Understand the methods of route alignment and design elements in Railway Planning and Constructions.
C313.2	Understand the Construction techniques and Maintenance of Track laying and Railway stations.
C313.3	Gain an insight on the planning and site selection of Airport Planning and design.
C313.4	Analyze and design the elements for orientation of runways and passenger facility systems.
C313.5	Understand the various features in Harbours and Ports, their construction, coastal protection works and coastal Regulations to be adopted.

Course Code: C314 Course Name: CE6605 ENVIRONMENTAL ENGINEERING II

C314.1	An ability to estimate sewage generation and design sewer system including sewage pumping stations

C314.2	The required understanding on the characteristics and composition of sewage, selfpurification of streams
C314.3	An ability to perform basic design of the unit operations and processes that are used in sewage treatment
C314.4	Understand the standard methods for disposal of sewage.
C314.5	Gain knowledge on sludge treatment and disposal

Course Code: C315 Course Name: CE6002 CONCRETE TECHNOLOGY

C315.1	To impart knowledge to the students on the properties of materials
C315.2	Suitable tests on concrete quality Test
C315.3	To have a knowledge on Mix design for concrete
C315.4	To have a knowledge on Fresh concrete and harden conrete.
C315.5	To have a knowledge on special concrete

Course Code: C316 Course Name: CE6611 ENVIRONMENTAL ENGINEERING LABORATORY

C316.1	Able to characterize wastewater and conduct treatability studies.
C316.2	Acquire the sampling and preservation methods of water and wastewater.
C316.3	Test bleaching powder and find the disinfectant percentage in chlorinated water.
C316.4	Do the water and wastewater analysis.
C316.5	Detect the gases by using gas analyzers.

Course Code: C317 Course Name: CE6612 CONCRETE AND HIGHWAY ENGINEERING LABORATORY

C317.1	Student knows the techniques to characterize various pavement materials through relevant tests.
C317.2	Acquire knowledge on test of fresh concrete
C317.3	Awareness on testing of aggregates
C317.4	Gain knowledge on test of bitumen

Course Code: C318 Course Name: HS8581 PROFESSIONAL COMMUNICATION

C317.1	Make Effective Presentation
C317.2	participate Confidently in group discussions
C317.3	Attend job interview and be successful in them
C317.4	Develop acquired soft skills required for the work place

Course Code: C401 Course Name:CE6701STRUCTURAL DYNAMICS AND EARTHQUAKE ENGINEERING

C401.1	Identify, formulate and solve dynamic response of SDOF systems
C401.2	Identify, formulate and solve dynamic response of MDOF systems
C401.3	Understand the basic concepts and fundamentals of seismology.
C401.4	To impart knowledge on effect of earthquake loading to different type of structures like RCC, Steel and Prestressed Concrete structures
C401.5	Student will have the knowledge to analyse structures subjected to dynamic loading and to design the structures for seismic loading as per code provisions.

Course Code: C402 Course Name:CE6702 PRESTRESSED CONCRETE STRUCTURES

C402.1	Deliver the basic fundamentals of prestressing.
C402.2	Deliver the design principles of flexure and shear of prestressed concrete.
C402.3	Deflection criteria of composite construction.
C402.4	Analyze the stresses and strain of composite beams.
C402.5	Design of prestressed concrete tanks.

Course Code: C403 Course Name:CE6703 WATER RESOURCES AND IRRIGATION ENGINEERING

C403.1	The students will have knowledge and skills on Planning, design, operation and management of reservoir system.
C403.2	The students will have knowledge on water policies, consumptive and conjuctive use of water.
C403.3	Will understand the different components of Irrigation methods
C403.4	Students will gain the knowledge based on the canal regulators
C403.5	Students will understand the concept of participatory irrigation management.

Course Code: C404 Course Name:CE6704 ESTIMATION AND QUANTITY SURVEYING

C404.1	Estimate the cost and quantity required to construct a building thereby helping the owner in deciding the needed funds.
C404.2	Estimate the various items of engineering works such as buildings, canals, roads etc.,
C404.3	Familiar with the specifications and to arrive the rate analysis
C404.4	Value the properties considering depreciation and time value of money.
C404.5	Prepare report documents for various structures.

Course Code: C405 Course Name:CE6701 HOUSING PLANNING AND MANAGEMENT

C405.1	Will understand the basic terms related to housing programs and learn about the concepts of NHP and about the institutions of housing.
C405.2	Will learn about the basic concepts of housing programmes and about the improvement of slum housing also about the role of public,private,NGO's in slum improvement.
C405.3	Will learn about the building byelaws and rules related to housing and about the site analysis and problems related to layout designs.
C405.4	Have knowledge about the cost effective materials and the new construction techniques and learn about the building centres.
C405.5	Will learn about the housing finance, cost recovery, cash flow analysis and about the public private projects and problems related to pricing of housing units.

Course Code: C406 Course Name:EN6501 MUNICIPAL SOLID WASTE MANAGEMENT

C406.1	Will have an understanding of the nature and characteristics of municipal solid wastes and the regulatory requirements regarding municipal solid waste management
C406.2	Ability to gain knowledge on on-site storage and processing and methods of segregation.

C406.3	Understand the methodology for collection of municipal solid waste and transfer station location, operation and maintenance.
C406.4	gain knowledge about the off-site processing and resources recovery from solid waste composting.
C406.5	Understand the methodology for disposal of soild waste and to design the sanitary landfills.

Course Code: C407 Course Name:CE6711 COMPUTER AIDED DESIGN AND DRAFTING LABORATORY

C407.1	At the end of the course the student acquires hands on experience in design andpreparation of structural drawings for concrete / steel structures normally encountered in
C407.2	Students will be able to implement ideas of computer aided design with advantages and demerits.
C407.3	Will have a knowledge on computer software package for analysis of the structures
C407.4	Will learn the Optimization techniques of the structure
C407.5	Design and draw the detailing involved in the plate girder.

Course Code: C408 Course Name:CE6712 DESIGN PROJECT

C408.1	On completion of the design project students will have a better experience in designing various design problems related to Civil Engineering.
C408.2	Gain Knowledge on software package drafting and design software
C408.3	Knowledge on design calculation based on design specification
C408.4	Opportunity to utilise the creative ability and inference capability
C408.5	Explore the communication skill by project presentation

Course Code: C409 Course Name:MG6851 PRINCIPLES OF MANAGEMENT

C409.1	Upon completion of the course, students will be able to have clear understanding of managerial functions like planning, organizing, staffing, leading &
C409.2	Will have some basic knowledge on international aspect of planning in management
C409.3	Will have some basic knowledge on the organizing aspect in management.
C409.4	will able to understand the concept of leading and controlling
C409.5	Will able to understand the current trends and issues in management

Course Code: C410 Course Name:CE6016 PREFABRICATED STRUCTURES

C410.1	The student will have good knowledge about design principles, layout of factory and stages of loading in precast construction.
C410.2	Acquire knowledge about panel systems, slabs, connections used in precast construction and they will be in a position to design the elements.
C410.3	Acquire knowledge about types of floor systems, stairs and roofs used in precast construction
C410.4	Acquire knowledge about types of walls used in precast construction, sealants, design of joints.
C410.5	Acquire knowledge about components in industrial building

Course Code: C411 Course Name:CE6021 REPAIR AND REHABILITATION OF STRUCTURES

C411.1	The importance of maintenance and assessment method of distressed structures.
C411.2	The strength and durability properties ,their effects due to climate and temperature.
C411.3	Recent development in concrete
C411.4	The techniques for repair rand protection methods
C411.5	Repair, rehabilitation and retrofitting of structures and demolition methods.

Course Code: C412 Course Name:CE6811 PROJECT WORK

C412.1	On Completion of the project work students will be in a position to take up any challenging practical problems and find solution by formulating proper methodology.
C412.2	Relate the theoretical studies with experimental work or field work
C412.3	Gain Knowledge on real time problem related to project work
C412.4	Knowledge on design calculation based on design specification
C412.5	Explore the communication skill by project presentation