

Course Outcomes (COs)

First Year of Engineering - 2015 Pattern

Course Code	Name of Subject/ Course	Course Outcome (COs)
107009	Engineering Chemistry	<ul style="list-style-type: none"> <input type="checkbox"/> Student will able to determine hardness and alkalinity of water technology, to explain different treatment methods and significance of green Chemistry. <input type="checkbox"/> Students will able to demonstrate analytical techniques based on principles, theories observations and calculations. <input type="checkbox"/> Students will able to select polymer for specific application based on their properties. <input type="checkbox"/> Students will able to interpret potential applications of fossil fuels and new source for power generation <input type="checkbox"/> Students will able to identify carbon and hydrogen based materials and their application in modern chemistry <input type="checkbox"/> Students will able to describe oxidation and reduction reactions in relation to engineering aspects, such as corrosion.
104012	Basic Electronics Engineering	<ul style="list-style-type: none"> <input type="checkbox"/> Understand basic electronic component and measuring devices. <input type="checkbox"/> Understand semiconductor devices to study their construction and characteristics. <input type="checkbox"/> Understand the characteristics of IC and Op-Amp and identify the internal structure. <input type="checkbox"/> Use the basic logic gates to design digital circuits. <input type="checkbox"/> Understanding basic of power devices, principal of Sensors and Transducer. <input type="checkbox"/> Understand and identify fundamental concepts and components of communication systems.
110003	Fundamentals of Programming Languages-I	<ul style="list-style-type: none"> <input type="checkbox"/> Student will able to use modular programming approach in diversified problem domains. <input type="checkbox"/> Students will able to apply programming logic to solve real world problems. <input type="checkbox"/> Students will able to decide effectiveness of computer based solutions. <input type="checkbox"/> Students will be able to use derived data types.
110010	Fundamentals of Programming Languages-II	<ul style="list-style-type: none"> <input type="checkbox"/> Student will able to develop programs using object oriented concepts.

		<ul style="list-style-type: none"> <input type="checkbox"/> Students will able to design and develop web pages using HTML. <input type="checkbox"/> Students will able to design and develop mobile application using Android SDK. <input type="checkbox"/> Students will be able to design and develop simple application using Embedded Programming.
107002	Engineering Physics	<ul style="list-style-type: none"> <input type="checkbox"/> Apply the basic principles of optics in day-to-day life. <input type="checkbox"/> Explain basic acoustical concepts related to the good acoustics of building and ultrasonic phenomenon. <input type="checkbox"/> Explain different types of polarized light, LASER light and their applications in various fields. <input type="checkbox"/> Apply knowledge of semiconductor physics to advanced technology. <input type="checkbox"/> Apply the central concepts of matter waves and principles for analytical abilities in wave mechanics. <input type="checkbox"/> Link the applications of superconductivity and nanotechnology in various fields.
101005	Basic Civil & Environmental Engineering	<ul style="list-style-type: none"> <input type="checkbox"/> Learn about various branches of civil engineering and to collaborate in interdisciplinary projects. <input type="checkbox"/> Identify suitable construction material for load bearing and framed constructions. <input type="checkbox"/> Determine elevation of points to reduce levels and to describe methods of contour map preparation. <input type="checkbox"/> Justify the role of engineers in sustainable development and EIA with the knowledge of ecological cycles, ecosystems, environmental pollutions and available alternative energy sources. <input type="checkbox"/> Apply principles of planning and building by laws in built environment. <input type="checkbox"/> Learn about the various sources of pollution and methods to abate it
101011	Engineering Mechanics	<ul style="list-style-type: none"> <input type="checkbox"/> Students will be able to find equivalent force system and Centroids of plane figures and wire bends <input type="checkbox"/> Students will be able to analyse the kinematics and kinetics of rectilinear motion using Newton's second law of motion <input type="checkbox"/> Students will be able to analyse the kinematics and kinetics of curvilinear motion using Newton's second law of motion <input type="checkbox"/> Students will be able to solve motion of particle using work energy and impulse momentum principles <input type="checkbox"/> Students will be able to analyse equilibrium of structure without considering friction <input type="checkbox"/> Students will be able to analyse structures like trusses, cables, frames and also to apply laws of friction for equilibrium



107001	Engineering Mathematics-I	<ul style="list-style-type: none"> <input type="checkbox"/> Student will be able to understand and solve the problems involving System of linear equations arising in all engineering fields, using matrix methods, stability of engineering systems where knowledge of Eigen values and Eigen vectors are essential etc.. <input type="checkbox"/> Student will be able to understand and solve the problem involving algebraic and transcendental equations. <input type="checkbox"/> Student will be able to understand and solve the problem involving error analysis and approximations.. <input type="checkbox"/> Student will be acquainted with the expansion of functions by using Taylor and Maclaurin Series and will be able to determine the higher order derivatives <input type="checkbox"/> Student will be able to solve the problem involving ordinary and partial differential equations <input type="checkbox"/> Student will be able to understand and solve the problem involving stationary values of functions (Maxima & Minima), arising in optimization problems.
107008	Engineering Mathematics-II	<ul style="list-style-type: none"> <input type="checkbox"/> Solve all types of first order first degree differential equations <input type="checkbox"/> Model various physical systems such as Newton's Law of cooling, L-C-R circuits, rectilinear motion, mass-spring systems heat transfer etc. <input type="checkbox"/> Apply advanced techniques to evaluate integrals. Design and analyze continuous and discrete system, where knowledge of Fourier series and Harmonic analysis is required <input type="checkbox"/> Trace the curves in Cartesian, polar coordinate system & measure the arc lengths of various curves <input type="checkbox"/> Apply knowledge of Sphere, cone and cylinder that arise in vector calculus, electro-magnetic field theory, cad-cam, computer graphics etc. <input type="checkbox"/> Solve multiple integrals & understand the applications of double and triple integral in various fields. (e.g in 2-D,3-D geometrical things)
102006	Engineering Graphics – I	<ul style="list-style-type: none"> <input type="checkbox"/> To draw Basic Engineering drawings formats and take field dimensions. <input type="checkbox"/> To be able to take data and transform it into graphic drawings. <input type="checkbox"/> To be able to draw different views of Solids. <input type="checkbox"/> To be able to draw Engineering Curves. <input type="checkbox"/> To be able to draw Orthographic Projections. <input type="checkbox"/> Isometric views of objects are used to imagine the shape and size of objects.
111007	Workshop Practices	<ul style="list-style-type: none"> <input type="checkbox"/> To comprehend the safety measures required to be taken while using the tools. <input type="checkbox"/> To identify different operations and tools used in machine tools.

		<ul style="list-style-type: none"> <input type="checkbox"/> To select proper tools required for specific operation and understand applications of these tools. <input type="checkbox"/> To acquire practical skills in trade. <input type="checkbox"/> To know difference between Hot and Cold Working, Rolling, Forging, Extrusion and Drawing Processes. <input type="checkbox"/> Students will learn Foundry practices like pattern making and mold making.
102013	Basic Mechanical Engineering	<ul style="list-style-type: none"> <input type="checkbox"/> To understand functions of commonly used mechanical elements. <input type="checkbox"/> To learn concept of design in mechanical engineering. <input type="checkbox"/> To understand applications of the machines used in industry. <input type="checkbox"/> To learn conventional machine tools. <input type="checkbox"/> To impart Basic Knowledge of thermodynamics applied to industrial applications. <input type="checkbox"/> To understand laying principles of energy conversion systems and power plants.
102014	Engineering Graphics II	<ul style="list-style-type: none"> <input type="checkbox"/> Physical realization of drawing and its different parameters required for its presentation. <input type="checkbox"/> The drawings of objects which are studied here are used to communicate for different engineering purpose. <input type="checkbox"/> Isometric views of the objects are used to imagine the shape and size of objects. Some engineering curves are studied which require to develop actual views of objects. <input type="checkbox"/> Learn to sketch and take field dimensions. <input type="checkbox"/> Learn to take data and transform it into graphic drawings. <input type="checkbox"/> Learn basic engineering drawing formats.
103004	Basic Electrical Engineering	<ul style="list-style-type: none"> <input type="checkbox"/> Apply concept of fundamentals of electricity, Mechanical units & Thermal units <input type="checkbox"/> Difference between Electrical and Magnetic circuit <input type="checkbox"/> Apply concept of electromagnetism for the working of Transformer & Electrostatics. <input type="checkbox"/> Apply fundamental of AC circuit. <input type="checkbox"/> Draw the phasor diagram of single and three phase circuit <input type="checkbox"/> Provide solution of the Network by applying various laws and theorems

