



**SRI VASAVI INSTITUTE OF ENGINEERING & TECHNOLOGY(A)**

**Department of Mechanical Engineering  
COURSE OUTCOMES**

Academic year-2024-2025

Year/sem- II-I

CO Number	Course Outcome(CO) Statement- At the end of the Course, the students will be able to	Blooms Taxonomy
<b>Numerical Methods and Transform Techniques (C211)</b>		
C211.1	Evaluate the approximate roots of polynomial and transcendental equations by different algorithms. Apply Newton's forward & backward interpolation and Lagrange's formulae for equal and unequal intervals	Apply
C211.2	Apply numerical integral techniques to different Engineering problems. Apply different algorithms for approximating the solutions of ordinary differential equations with initial conditions to its analytical computations	Apply
C211.3	Apply the Laplace transform for solving differential equations	Apply
C211.4	Find or compute the Fourier series of periodic signals	Apply
C211.5	Know and be able to apply integral expressions for the forwards and inverse Fourier transform to a range of non-periodic waveforms	Apply
<b>Universal Human Values- Understanding Harmony &amp; Ethical Human Conduct (C212)</b>		
C212.1	Define the terms like Natural Acceptance, Happiness and Prosperity and Identify one's self, and one's surroundings (family, society nature)	Understand
C212.2	Apply what they have learnt to their own self in different day-to-day settings in real life	Apply
C212.3	Relate human values with human relationship and human society.	Analyze
C212.4	Justify the need for universal human values and harmonious existence	Evaluate
C212.5	Develop as socially and ecologically responsible engineers	Create
<b>Thermodynamics (C213)</b>		
C213.1	Explain the importance of thermodynamic properties related to conversion of heat energy into work.	Apply
C213.2	Apply the Zeroeth and First Law of Thermodynamics.	Apply
C213.3	Apply the Second Law of Thermodynamics.	Apply
C213.4	Analyze the Mollier charts, T-S and h-s diagrams, Steam calorimetry, Phase Transformations	Analyze
C213.5	Evaluate the COP of refrigerating systems and properties, processes of psychrometry and sensible and latent heat loads.	Evaluate
<b>Mechanics of Solids (C214)</b>		
C214.1	Analyze beams, columns, frames for normal, shear, and torsion stresses and to solve deflection problems in preparation for the design of such structural components	Analyze
C214.2	Analyze beams and draw correct and complete shear and bending Moment diagrams for beams.	Analyze
C214.3	Apply the concept of stress and strain to analyze and design structural members and machine parts under axial, shear and bending loads, and Moments.	Apply
C214.4	Model & Analyze the behavior of basic structural members subjected to various loads	Analyze

C214.5	Analyze the Industrial components like pressure vessels.	Analyze
<b>Material Science and Metallurgy (C215)</b>		
C215.1	Interpret the Structure of Metals and phase diagrams of materials	Apply
C215.2	Distinguish different types of Ferrous metals, Non-ferrous Metals and Alloys	Analyze
C215.3	Interpret different heat treatment processes to get desired mechanical properties of metals	Analyze
C215.4	Describe the powder metallurgy	Understand
C215.5	Compare the unique nature of ceramics and composite materials.	Analyze
<b>Mechanics of Solids and Materials Science Lab (C216)</b>		
C216.1	Demonstrate the stress strain behavior of different materials.	Apply
C216.2	Evaluate the hardness of different materials.	Analyze
C216.3	Demonstrate the relation between elastic constants and hardness of materials.	Apply
C216.4	Identify various microstructures of steels and cast irons.	Apply
C216.5	Evaluate hardness of treated and untreated steels.	Analyze
<b>Computer-aided Machine Drawing (C217)</b>		
C217.1	Demonstrate the conventional representations of materials and machine components.	Apply
C217.2	Model riveted, welded and key joints using CAD system.	Create
C217.3	Create solid models and sectional views of machine components.	Create
C217.4	Generate solid models of machine parts and assemble them.	Evaluate
C217.5	Distinguish the 3D assemblies and 2D drawings.	Analyze
<b>Python programming Lab (C218)</b>		
C218.1	Develop a solid foundation in python programming syntax and semantics and be fluent in the use of python	Apply
C218.2	Make use of functions and represent compound data using Lists, Tuples and Dictionaries	Apply
C218.3	Solve coding tasks related to the handling of strings and functions	Analyze
C218.4	Make use of object oriented programming concepts such as encapsulation, inheritance and polymorphism as used in python	Apply
C218.5	Identify the web scraping and APIs , working with data bases and develop real time applications using Numpy and Pandas	Apply
<b>Embedded Systems and IoT (C219)</b>		
C219.1	Comprehend Microcontroller-Transducers Interface techniques.	Analyze
C219.2	Establish Serial Communication link with Arduino	Create
C219.3	Analyse basics of SPI interface.	Analyze
C219.4	Understand the concept of M2M (machine to machine) with necessary protocols and get awareness in implementation of distance sensor.	Understand
C219.5	Realize the revolution of internet in mobile devices, cloud and sensor networks	Apply

  
 HoD