



# Sree Chitra Thirunal College of Engineering

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## Consolidated Course Outcomes Report

Batch	S/no	Subject	CO	Topic	Bloom's taxonomy level
ME 2K20 A	1	MECHANICS OF FLUIDS	CO1	To explain the different properties of the fluids and it the relationships among them	Remembering(R)
			CO2	To understand the Kinematics of the fluid flow	Understanding(U)
			CO3	To understand the governing equations of the fluid flow and the Bernoulli's Equation	Understanding(U)
			CO4	To explain the laminar and turbulent pipe flow and its evaluation	Understanding(U)
			CO5	To explain the boundary layer theory and the dimensional analysis	Remembering(R)
	2	MECHANICS OF SOLIDS	CO1	Determine the stresses, strains and displacements of structures by tensorial and graphical approaches	Applying(P)
			CO2	Analyse the strength of materials using stress-strain relationships for structural and thermal loading	Applying(P)
			CO3	Perform basic design of shafts subjected to torsional loading and analyse beams subjected to bending moments	Applying(P)
			CO4	Determine the deformation of structures subjected to various loading conditions using strain energy methods	Applying(P)
			CO5	Analyse column buckling and appreciate the theories of failures and its relevance in engineering design	Applying(P)
	3	METALLURGY & MATERIAL SCIENCE	CO1	Understand the basic chemical bonds, crystal structures (BCC, FCC, and HCP), and their relationship with the properties	Remembering(R),Understanding(U)
			CO2	Analyze the microstructure of metallic materials using phase diagrams and modify the microstructure and properties using different heat treatments.	Understanding(U),Applying(P),Analyzing(A)
			CO3	How to quantify mechanical integrity and failure in materials.	Remembering(R),Understanding(U)
			CO4	Apply the basic principles of ferrous and non-ferrous metallurgy for selecting materials for specific applications.	Remembering(R),Understanding(U),Applying(P)
			CO5	Define and differentiate engineering materials on the basis of structure and properties for engineering applications.	Understanding(U),Remembering(R)
	4	DESIGN AND ENGINEERING	CO1	Explain the different concepts and principles involved in design engineering.	Remembering(R)
			CO2	Apply design thinking while learning and practicing engineering.	Understanding(U)
			CO3	Develop innovative, reliable, sustainable and economically viable designs incorporating knowledge in engineering.	Applying(P)
		SUSTAINABLE	CO1	Understand the relevance and the concept of sustainability and the global initiatives in this direction	Understanding(U)
			CO2	Explain the different types of environmental pollution problems and their sustainable solutions	Understanding(U)

5	ENGINEERING	CO3	Discuss the environmental regulations and standards	Understanding(U)
		CO4	Outline the concepts related to conventional and non-conventional energy	Understanding(U)
		CO5	Demonstrate the broad perspective of sustainable practices by utilizing engineering knowledge and principles	Understanding(U)
6	COMPUTER AIDED MACHINE DRAWING	CO1	Apply the knowledge of engineering drawings and standards to prepare standard dimensioned drawings of machine parts and other engineering components.	Understanding(U)
		CO2	Prepare standard assembly drawings of machine components and valves using part drawings and bill of materials	Understanding(U)
		CO3	Apply limits and tolerances to components and choose appropriate fits for given assemblies	Understanding(U)
		CO4	Interpret the symbols of welded, machining and surface roughness on the component drawings.	Understanding(U)
		CO5	Prepare part and assembly drawings and Bill of Materials of machine components and valves using CAD software.	Applying(P)
7	PARTIAL DIFFERENTIAL EQUATION AND COMPLEX ANALYSIS	CO1	Solve partial differential equation by different methods	Applying(P)
		CO2	Solve one dimensional heat and wave equation	Applying(P)
		CO3	Explain the concept of analytic function and its properties	Understanding(U)
		CO4	Explain the concept of power series and singularities of analytic function	Understanding(U)
		CO5	Evaluation of line integrals of complex functions by different methods	Evaluate(E)