

CE 706: MECHANICS OF COMPOSITE MATERIALS (3-0-0:3)

Introduction to composite materials along with its basic requirements and classification, Reinforcements and matrix materials, Strength and stiffness properties, Effective moduli, spherical inclusions, cylindrical and lamellar systems.

Laminates: Laminated plates, analysis, strength and design with composites, Fibre reinforced pressure vessels, Dynamic inelastic and nonlinear effects, and Technological applications.

References:

1. Jones R. M., *"Mechanics of Composite Materials"*, McGraw Hill.
2. Reddy J.N., *"Mechanics of Laminated Composite Plates"*, CRC Press.
3. Agrawal B.D and Broutman A.S., *"Analysis of Performance of Fibre Composites"*, John Wiley and Sons.
4. Kaw A.K., *"Mechanics of Composite Materials"*, CRC Press, New York
5. Daniel I.M and Ishai O., *"Engineering Mechanics of Composite Materials"*, Oxford University Press.