

## MSE 872 Composite Materials

**CHs:** 3

**Pre-requisites:** Nil

### **Course Objectives:**

- Understanding of types of composites
- Synthesis processes for the development of different types of composites
- Properties of different composites

### **Course contents:**

- Role of interfaces, processes and production of Polymer Matrix Composites,
- Metal Matrix Composites, Ceramic Matrix Composites,
- Design Aspects of Composite based structures and Titanium based Composite Materials.
- Application and properties of Composite Materials,
- Production of glass fiber and carbon fiber composites,

### **Course Outcomes:**

- The student should be able to solve problems related to strength and mechanical properties of different composite materials
- Apply the knowledge in development of new morphologies of composite materials and understand their properties for research application

### **Recommended Text/Reference Books:**

- Composite Materials Design and Applications (Daniel Gay)
- Composite Materials: Engineering and Science (Frank L Mathew)