



Introduction to Mechanical Vibration

ABOUT THE COURSE

Vibration is a common phenomenon occurring in a mechanical system. For example, vibration of a rotor due to unbalanced mass, vibration of a vehicle engine at varying speed. The study of a dedicated course is required to understand the fundamental and advance concepts of mechanical vibrations for engineers and designers. This course is of basic level. It introduces fundamentals of vibration, free and forced, undamped and damped vibration, vibration of single Degree of Freedom (DoF) system, 2-DoF and multi-DoF systems, theory of vibration absorbers and vibration instruments.

COURSE LAYOUT

Week1: Fundamental of Vibrations.

Week2: Free Vibration of Single Degree of Freedom Systems.

Week3: Forced Vibration of Single Degree of Freedom Systems.

Week4: Forced Vibration of Single Degree of Freedom Systems.

Week5: Vibration Measuring Instruments.

Week6: Vibration of Two Degree of Freedom Systems.

Week7: Vibration Absorbers and Critical Speed of Shafts.

Week8: Vibration of Multi Degree of Freedom Systems.