PRINCIPLES OF VIBRATION CONTROL

PROF. BISHAKH BHATTACHARYA
Department of Mechanical Engineering IIT Kanpur

TYPE OF COURSE : Rerun | Both | PG
COURSE DURATION : 4 weeks (20 Jul' 20 - 14 Aug' 20)
EXAM DATE : 27 Sep 2020

PRE-REQUISITES : Basics of Mechanical Vibrations
INTENDED AUDIENCE : Nil
INDUSTRIES APPLICABLE TO : Oil, Space, Manufacturing industries

COURSE OUTLINE :
Vibration is undesirable in most engineering systems. The ill effects of vibration include fatigue failure, severe damages due to resonance, malfunctioning of sensitive instruments/systems, loss of accuracy of workpiece due to vibration of machine tools, etc. This course will give a brief overview about the various strategies to control such vibrations in systems and principle behind them.

ABOUT INSTRUCTOR :
Prof. Bishakh Bhattacharya is currently Dr. Gurumukh D. Mehta and Veena M. Mehta Chair Professor at the Department of Mechanical Engineering and joint faculty Design Programme, IIT Kanpur. His research interest primarily lies in vibration control, structural health monitoring, energy harvesting system, intelligent system design and Child-Reconfigurable Robot Interaction.

COURSE PLAN :

Week 1: Introduction to Vibration control
Week 2: Dynamic Properties and Selection of Materials
Week 3: Dynamic Vibration Absorbers
Week 4: Principles of Active Vibration Control