NOISE MANAGEMENT AND CONTROL

PROF. NACHIKETA TIWARI
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IIT Kanpur

TYPE OF COURSE : Rerun | Core/Elective | UG/PG
COURSE DURATION : 12 weeks (29 Jul’19 - 18 Oct’19)
EXAM DATE : 17 Nov 2019

INTENDED AUDIENCE : B.E, M.E, M.Sc, Ph.D
PRE-REQUISITES : Must be enrolled into a B. Tech. program or equivalent and should have completed at least Second year of his 4-year program.

INDUSTRIES APPLICABLE TO : Automotive, NVH, Acoustics, Railways, Power Generation and all industry that has to address issues related to noise.

COURSE OUTLINE
This course is intended for all those who want to understand noise, its control, and its management. Thus, the course is open to students of engineering and science, and also to all those who from the industry and research organizations – who are working in area of sound, NVH and acoustics. Each lecture will be followed by a quiz, which will help student the concepts better, and gain deeper insights to measurement process. The course is fairly generic so that there is no need for a particular background. Rather, what is needed is openness, and ability to learn and check out new ideas with comfort.

ABOUT INSTRUCTOR :
Dr. Nachiketa Tiwari is an Associate Professor of Mechanical Engineering at IIT Kanpur. He has extensive experience in area of acoustics and noise. Earlier, he worked for over 13 years at the R&D Headquarters Bose Corporation in Massachusetts. He has developed several courses on noise, acoustics, and NVH. He has been engaged in several noise and vibration related projects to fulfill the needs of India’s industry as well as research organizations. He has established Dhwani, an Acoustics Lab at IITK, which is one of the best in the country.

COURSE PLAN :
Week 01 : Intro and terminology
Week 02 : Concept Review
Week 03 : Wave Mechanics
Week 04 : 1-D Waves
Week 05 : Spherical Waves
Week 06 : Noise Measurement
Week 07 : Noise Sources
Week 08 : Noise Sources
Week 09 : Acoustic Criteria & Room Acoustics
Week 10 : Room Acoustics & Silencers
Week 11 : Silencers & Vibration Isolation
Week 12 : Silencers & Vibration Isolation