

COURSE OUTLINE

This course will cover the listed NVH phenomena as they relate to Powertrain excitation.

Topics over the 4 days include:

DAY 1 (16 October 2017)

- Presentation: *Providing the Transformational Means to a new era of Sustainability and Mobility*
- Description of Sustainability and Mobility
- Understanding Powertrain Design (Engine, Transmission, Driveline)
- Vibratory Motion and SDOF Systems
- Basic principles of Powertrain NVH

DAY 2 (17 October 2017)

- Characterization of Sound
- Psychoacoustics & Sound Quality
- Review Powertrain NVH Error States and Failure Modes
- NVH Diagnosis and Control

DAY 3 (18 October 2017)

- The concept of Mobility and Self-Driving Autonomous Vehicles
- The importance of Virtual Simulation

DAY 4 (19 October 2017) – *(Presentation of Published Papers)*

- Description of Hybrid (Test+CAE) Simulation Methods and Examples
- Discuss use of Multi-Discipline and Multi-Physics CAE methods for high frequency NVH prediction
- Technologies for evaluating high frequency impulsive vibration and noise
- Summary / Open discussion on Technology challenges for NVH assessment