Driveline Systems

This self-paced DVD seminar covers the noise and vibration control methods for vehicle driveline components and systems. Both linear and nonlinear models, along with source-path-receiver network and transfer function approaches, are employed to characterize and simulate the governing torsional systems.

This seminar is based on the extensive research and development work that has been carried out at Ohio State, and it has been designed to suit the needs of practicing engineers. Students are expected to submit a brief report on the workshop discussion questions.

Topics presented in the Driveline System NVH Issues seminar include:

• Source-path-receiver networks for driveline system problems
• Linear and nonlinear models for torsional systems
• Excitation mechanisms (engines, gears, etc.)
• Frequency and time domain responses
• Nonlinear effects associated with backlash, multi-staged stiffness and dry friction elements
• Practical case studies including transmission rattle, driveline clunk, judder, gear whine, etc.

Prerequisites: Completion of ME7261 and ME7263 or permission of Prof. Raj Singh to waive the prerequisites.

Ohio State University’s Automotive NVH certificate includes international collaboration with the Korean Advanced Institute of Science and Technology (KAIST).