

Curs de Postgrau

Advanced Mechatronics and NVH Systems for Automotive applications

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	Vehicle Dynamics & Mechatronics		Noise and Vibration	
	Hours	Hours	Hours	Hours
Propaedeutic Part	Tyre behaviour	4 h	Introduction to vibrating systems	9 h
	Longitudinal Performance Lateral Performance		SDOF + MDOF Modal Identification Systems Workshop MATLAB	
	Fundamentals of Vehicle Dynamics	4 h	Introduction to Random Vibrations	8 h
	Longitudinal Performance Modelling of a Simple Drivetrain		Stochastic vs Deterministic functions Stochastics Loads for Automotive Workshop MATLAB	
	Introduction to lateral dynamics	8 h	Introduction to acoustics	4 h
	Bicycle Model 7 DOF Model Vehicle Setup		Radiated Sound Acoustic Absortion/Isolation Psychoacoustics for Vehicles	
	Hours	16 h	21 h	37 h
Advanced Part	Vehicle Dynamics & Mechatronics	Hours	Noise and Vibration	Hours
	Handling Evaluation Criteria	6 h	Vehicle Brand Definition	8 h
	Vehicle Instrumentation Manoeuvres (Ramp Steer, Chirp) Objective KPIs		IC Engine Sound(Nr Cylinders, Exhaust Liine, Intake Suytems Cabin Sound Quality & Sound Design Electric Vehicle (overview)	
	Semi-Active/Active Systems	4 h	On Field NVH	8 h
	Rear Wheel Steering Liimited Slip Differential Torque Vectoring Variable Roll Moment Distribution		NVH Test Acquisition Systems Post Processing Tools	
	Modelling of Automotive Systems	11 h		
	Backward Facing Approach Forward Facing Approach Tyres Chassis Powertrain, Engine and Electric Motors Bicycle Model Development and Analysis			
	Hours	21 h	16 h	37 h
	Total Hours	37 h	37 h	72 h