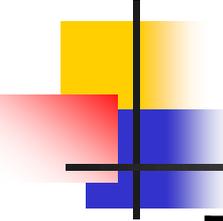


MECA0525: PERFORMANCE AND DYNAMICS OF VEHICLES

-

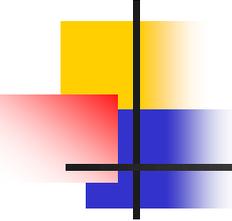
AGENDA

Prof. Pierre DUYSINX
University of Liège
Academic Year 2021-2022



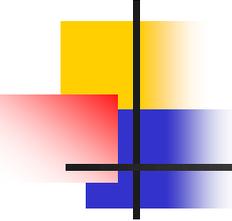
MECA0525 Vehicle Performance - Agenda

Tuesday 08/02	Introduction. Conventions / Longitudinal equilibrium Performance 1 : Characterization of propulsion systems (ICE and e-motors)
Tuesday 15/02	Performance 2: Tractive forces Performance 2: Road loads
Tuesday 22/02	Performance 3: Max speed, gradeability, acceleration Exercises 1: Road loads, max speed, max slope, acceleration HW1 Performance simulation (MATLAB)
Tuesday 01/03	MARDI GRAS LAB: CHASSIS DYNAMOMETER
Tuesday 08/03	Performance 4: Energy consumption and emissions Exercises 2: Energy consumption HW2 Computer project: Energy consumption simulation (MATLAB)



MECA0525 Vehicle Performance - Agenda

Tuesday 15/03	Performance 5: Braking Seminar 1: Real life consumption by M. Belhabib (FORD)
Tuesday 22/03	Tire Mechanics 1 (construction and longitudinal behavior)
Tuesday 29/03	Tire mechanics 2 & 3 (lateral behavior & combined) Exercises 3: Tire performance
Tuesday 05/04	EASTERN BREAK
Tuesday 12/04	EASTERN BREAK
Thursday 19/04	Vehicle dynamics: steady state cornering Exercises 4: Understeer gradient HW3.a: SST Vehicle dynamics



MECA0525 Vehicle Performance - Agenda

Thursday 26/04	SST Vehicle dynamics: influence of suspension. Exercises 5: Understeer gradient with suspension effects HW3.b : SST Vehicle dynamics
Thursday 03/05	Vehicle dynamics: Stability during maneuver Exercises 6: Vehicle dynamics in MATLAB HW4 : Computer project 2: Vehicle dynamics and stability using MATLAB
Thursday 10/05	Vertical dynamics: Ride and Comfort Exercises 7: Vertical dynamics, ride and comfort
Thursday 17/05	Crashworthiness and comfort Seminar 2: Development of suspension in passenger cars (E. Tromme, TME, collaborateur Uliege)