

<i>Name of the subject:</i> Dynamics of Vehicle	<i>NEPTUN-code:</i> BGRJD1ENNM	Credits: 3 ECTS: 4
<i>Subject leader:</i> Dr. Tamás Szakács	<i>Title:</i> ass.prof.	
<i>Course description:</i>		
<p>The course starts of with analyses on simple rigid body dynamical models where properties like eigen-frequencies, eigenvectors, critical damping, transient solution and steady state solution are explained. After the basic concepts of rigid body dynamics have been discussed, more specific vehicle dynamical models are investigated. With these models stability properties such as over steering, magnification of acceleration roll etc. are analyzed. Hence, a number of analytical expressions are derived which can be used when designing vehicles. Other concepts that are discussed in this course are Ackermann camber, caster, toe and Steering axis inclination. The course will give fundamental skills in modelling and simulation of vehicle dynamics. The setting up of simulation models together with controlling the simulation and post processing results will be exemplified and experienced via tutorials. Vehicle modelling, parameter studies, vehicle maneuvers and introduction to software will be given.</p>		