Title:	**Fundamentals of Vibration Engineering**
Lecturer:	Prof. Dr.-Ing. habil. Emil Kolev
Teaching language:	English
Qualification aim:	This course covers the basics of vibration technology. The students should be able to handle the vibration behaviour of mechanical systems analytically and to detect and understand vibration phenomena in practice.
Contents:	1. Classification of vibrations: lumped and continuous parameters, 2. Linear systems with a single degree of freedom, 3. Longitudinal and torsional undamped systems with free behaviour: 4. Damped systems with free behaviour, 5. Forced, damped vibrations, 6. Vibration with force excitation at the mass, spring, damper and housing, 7. Multi-body longitudinal oscillator, 8. Continuum mechanics: longitudinal and torsional vibrations of bars.
Teaching methods:	lectures 2 x 90 min. per week, exercises included
Necessary knowledge:	dynamics
Usability:	Mechanical Engineer (B.Eng.)
Preconditions for the granting of credits:	
	written examination: 120min
Credits:	5 ECTS- Credits
Frequency:	annually in the winter semester
Workload:	150 hours (present time: 60h + self-study 90h)
Duration of one unit:	90 min.
Supporting documents:	scriptum
Recommended publications:	
	Technical Mechanics, Fachbergriffe im deutschen und englischen Kontext, S. Kessel/ D. Fröhling, B.G. Teubner Stuttgart, Leipzig, ISBN 3-519-06378-6