Modulname	**Vibration Engineering**
Modulverantwortlicher/ Modulverantwortliche	Prof. Dr.- Ing. habil. Emil Kolev
Qualifikationsziele	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.
Modulinhalte	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.
Lehrformen	Lectures and exercises, self-study
Voraussetzungen für die Teilnahme	
Literatur/ multimediale Lehr-und Lernprogramme	Technical Mechanics, Fachbergriffe im deutschen und englischen Kontext, S. Kessel/ D. Fröhling, B.G. Teubner Stuttgart, Leipzig, ISBN 3-519-06378-6
Lehrbriefautor	
Verwendbarkeit	Master Mechatronics, Master Maschinenbau, Master AKT.
Arbeitsaufwand/ Gesamtworkload	150 Stunden, 60 LVS Präsenzzeit
ECTS und Gewichtung der Note in der Gesamtnote	5 ECTS 5/90
Leistungsnachweis	Written examination 120min, written lab reports
Semester	Winter
Häufigkeit des Angebots	annually
Dauer	one semester
Art der Lehrveranstaltung (Pflicht, Wahl, etc.)	Elective compulsory modul
Besonderes	