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| 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 |  |