Hochschule München University of Applied Sciences

Courses in English
Course Description

Department	09 Engineering and Management
Course title	**Engineering Mechanics**
Course number	
Hours per week (SWS)	4 SWS
Number of ECTS credits	5
Course objective	Competence Level 1 “Remember”: • The students remember physical and mathematical school knowledge and recognise their significance for engineering education. Competence Level 2 “Understand”: • The students understand the effect of forces and moments in rigid bodies and can find the resultant loads. Competence Level 3 “Apply”: • The students are able to apply both graphic and analytic methods for solving mechanical problems. Competence Level 4 “Analyse”: • The students are able to convert a mechanical system into a basic and simplified calculation model. Competence Level 5 “Assess”: • The students are able to evaluate the results of their calculation and assess the general suitability and durability of components.
Prerequisites	Basis knowledge and fundamentals in mathematics and physics, Basics in vector analysis, linear equation systems and differential calculus
Recommended reading	ANZINGER, Manfred, Engineering Mechanics. 9th ed., Faculty-internal lecture notes, 2017. GROSS, Dietmar et al. Engineering Mechanics 1 – Statics. 2nd ed. Berlin: Springer, 2013. ISBN 978-3642303180 GROSS, Dietmar et al. Engineering Mechanics 2 – Mechanics of Materials. 2nd ed. Berlin: Springer, 2018. ISBN 978-3662562710 KESSEL, Siegfried and Dirk FRÖHLING. Technische Mechanik – Engineering Mechanics. 2nd ed. Berlin: Springer, 2012. ISBN 978-3834817198
Teaching methods	Seminar-like lecture
Assessment methods	Written Exam, Duration: 90 minutes
Language of instruction	English
Name of lecturer	Prof. Dr. Eckhard Hoffmann
Email	eckhard.hoffmann@hm.edu
Link	

Hochschule München University of Applied Sciences

Courses in English
Course Description

Course content	Statics: Newton's axioms, the resultant in a coplanar system of forces, free body diagram, support reactions, equilibrium systems, static and kinetic friction. Fundamentals of strength of materials: definition of stress and strain, Hooke´s law, stress resultants, centroid and area moment of inertia, loads comprised of tension/compression-, bending-, shear-, torsion- and thermal stresses, stress equivalents. Influence factors for static and dynamic strength. Practical application of the shape strength diagram.
Remarks	