

<b>Department</b>	09 Engineering and Management
<b>Course title</b>	<b>Engineering Mechanics</b>
<b>Hours per week (SWS)</b>	4
<b>Number of ECTS credits</b>	5
<b>Course objective</b>	<p>By the end of the course students will:</p> <ul style="list-style-type: none"><li>• Be aware of the forces and moments in simple solid-state systems.</li><li>• Know how to determine forces and moments in mounting points and the impact of forces on substructures.</li><li>• Understand friction situations in technology.</li><li>• Be able to calculate the barycentre of bodies.</li><li>• Be able to determine the internal forces of subsystems (stresses) and their impact (strains).</li><li>• Understand the variables that influence static and dynamic component strength.</li><li>• Be able to demonstrate the strength of components in linear and simple compounded strain cases.</li></ul>
<b>Prerequisites</b>	Basis knowledge and fundamentals in mathematics and physics
<b>Recommended reading</b>	Lecture notes (script)
<b>Teaching methods</b>	Lecture, group work
<b>Assessment methods</b>	Written examination
<b>Language of instruction</b>	English
<b>Name of lecturer</b>	Prof. Dr. Eckhard Hoffmann
<b>Email</b>	<a href="mailto:eckhard.hoffmann@hm.edu">eckhard.hoffmann@hm.edu</a>
<b>Link</b>	<a href="http://www.wi.hm.edu/dozenten/hoffmann/index.de.html">http://www.wi.hm.edu/dozenten/hoffmann/index.de.html</a>
<b>Course content</b>	<ul style="list-style-type: none"><li>• Summary of forces to resultants</li><li>• Bearing of bodies and application of the cutting principle</li><li>• Systems in balance</li><li>• Coulomb static and dynamic friction</li><li>• Relationship between stress and strain on material law</li><li>• Effects of traction/strain, bending, shear and torsion</li><li>• Practical application of the strength of materials: static and dynamic strength analysis of components</li></ul>
<b>Remarks</b>	