


<b>Studiengang:</b> <i>Program:</i>		<b>Bachelor of Science Maschinenbau</b> <i>Bachelor of Science in Mechanical Engineering</i>			
1	<b>Modul:</b> <i>Module:</i>	Principles of Thermodynamics II			<b>Deutsch</b> <i>German</i>
		<b>Semester</b> <i>Semester</i>	<b>Dauer</b> <i>Duration</i>	<b>Status</b> <i>Status</i>	<b>Turnus</b> <i>Regular cycle</i>
		6. Semester	1 Semester	compulsary	annually
	<b>Kreditpunkte</b> <i>Credits</i>	<b>Aufwand</b> <i>Workload</i>	<b>Kontaktzeit</b> <i>Contact-hours</i>	<b>Selbststudium</b> <i>Student's efforts</i>	<b>Gruppengröße</b> <i>Team size</i>
	2 ECTS	60 h	2 SWS = 30 h lectures	15 h pre-/post-preparation 15 h exercises	<25
2	<b>Beschreibung</b> <i>Description</i>				
This is a continuation of basic thermodynamic concepts for mechanical engineering students. The thermodynamic principles are applied in the study of cycle processes					
3	<b>Lernziele</b> <i>Learning Outcomes</i>				
Upon successful completion of this course, the student will be able to					
<ul style="list-style-type: none"> <li>• write the energy balance to evaluate processes, including determination of work and heat transports.</li> <li>• analyze and evaluate the performance of refrigeration and power cycles</li> </ul>					
4	<b>Schlüsselqualifikationen</b> <i>Key qualifications</i>				
	Sozialkompetenz	Methodenkompetenz	Selbstkompetenz / Personenkompetenz	Interkulturelle Kompetenz	Medienkompetenz
		X	X		
5	<b>Lehrveranstaltung/ -methoden</b> <i>Course type and methods</i>				
<ul style="list-style-type: none"> <li>• Seminar-like lecture</li> <li>• Exercises, case-studies</li> </ul>					
6	<b>Vorbedingungen / Vorkenntnisse</b> <i>Prerequisites</i>				
Thermodynamics I					
7	<b>Arbeitsmittel / Literatur</b> <i>Required material / Literature</i>				
THERMODYNAMICS: AN ENGINEERING APPROACH, Yunus Çengel, Michael A Boles					

Detailinformationen																				
8	<b>Inhalte</b> <i>Course topics</i> <ul style="list-style-type: none"> <li>reversible and irreversible processes</li> <li>Refrigeration cycles</li> <li>power cycles</li> </ul>																			
9	<b>Prüfungsform</b> <i>Assessment</i> Written examination (together with Principles of Thermodynamics II)																			
10	<b>Voraussetzung für die Vergabe von Kreditpunkten</b> <i>Requirements for granting of credits</i>  Successfully passing the written examination																			
11	<b>Weiterführende Veranstaltungen</b> <i>Related courses</i> Seminar design project (4th year at MSOE)																			
12	<b>Bezug zu Zielen des Studiengangs</b> <i>Related objectives of the study program / Outcomes</i>																			
13	<b>Zuordnung</b> <i>Classification</i> <table border="1" style="width:100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 14%;">Mathematik &amp; Naturwissenschaft</th> <th style="width: 14%;">Ingenieurwissenschaften</th> <th style="width: 14%;">Ingenieur-anwendungen</th> <th style="width: 14%;">Entwicklung &amp; Konstruktion</th> <th style="width: 14%;">Werkstoffe</th> <th style="width: 14%;">Wirtschaft, Management, Sprachen</th> <th style="width: 14%;">Anderes</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						Mathematik & Naturwissenschaft	Ingenieurwissenschaften	Ingenieur-anwendungen	Entwicklung & Konstruktion	Werkstoffe	Wirtschaft, Management, Sprachen	Anderes	X	X	X	X			
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14	<b>Modulbeauftragter / Lehrpersonen</b> <i>Responsible person / Lecturers</i> Prof. Dr. Müller-Menzel / Prof. Dr. Müller-Menzel, Prof. Dr. Warnack, Prof. Dr. Pietsch																			