


Studiengang: <b>Master of Science Maschinenbau</b> Program: <i>Master of Science in Mechanical Engineering</i>				
1	Modul: <b>Master Thesis and Final Oral Examination</b> Module: <i>Master - Thesis und Kolloquium</i>	<b>English</b> <i>Englisch</i>		
		<b>Semester</b> <i>Semester</i>	<b>Dauer</b> <i>Duration</i>	<b>Status</b> <i>Status</i>
		3. Semester	1 semester	compulsory
		<b>Turnus</b> <i>Regular cycle</i>	annual	
	<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>
	25 ECTS	750h	ca. 1h/ week = 15hrs	735h
2	<b>Beschreibung</b> <i>Description</i>			
	<p>The master thesis is a comprehensive inventive R&amp;D project the student has to execute self-dependently under the scientific guidance of a professor or lecturer. This project can deal with scientific research, product or process development/ improvement in the field of mechanical engineering, materials science or process engineering/ management or similar fields. The master thesis will prove the student's familiarity with the state of the art in science and technology and his capability to analyse, to work out and describe his project and its results on a scientific level. The final oral examination will comprise an oral presentation of the thesis's results and a face-to-face interview about the master project, its technical and scientific background and surrounding fields.</p> <p>The master thesis is an important step to finally establish a scientific background of working style and method for the student. A thorough supervision and support of the respective advisor will provide this for the student.</p>			
3	<b>Lernziele</b> <i>Learning Outcomes</i>			
	<ul style="list-style-type: none"> <li>• Application of scientific knowledge to special practical or theoretical problems,</li> <li>• Self dependant systematic planning, execution and controlling of a comprehensive project</li> <li>• Well organised and focussed reporting of intermediate and final results.</li> <li>• Being well trained in methodical thinking and acting.</li> </ul>			
4	<b>Schlüsselqualifikationen</b> <i>Key qualifications</i>			
	Sozialkompetenz <i>Social Competence</i>	Methodenkompetenz <i>Competence in Methods</i>	Selbstkompetenz / Personenkompetenz <i>Self-Competence Personal Competence</i>	Interkulturelle Kompetenz <i>Intercultural Competence</i>
	X	X	X	(X)
5	<b>Lehrveranstaltung/ -methoden</b> <i>Course type and methods</i>			
	<ul style="list-style-type: none"> <li>• Self dependant work on a scientific or an engineering project</li> <li>• Individual support and monitoring</li> </ul>			
6	<b>Vorbedingungen / Vorkenntnisse</b> <i>Prerequisites</i>			
	<p><b>Master - Thesis</b></p> <ul style="list-style-type: none"> <li>• Successful passing of all preceding lectures, seminars and lab trainings</li> <li>• Two exams can be pending at the beginning of the master project</li> <li>• Approval of the master project by the examination board and by the supervising professor</li> </ul> <p><b>Final oral examination</b></p> <ul style="list-style-type: none"> <li>• All preceding exams must have been passed successfully</li> <li>• The master thesis must have the mark 4.0 (minimum "passed") or better.</li> </ul>			
7	<b>Arbeitsmittel / Literatur</b> <i>Required material / Literature</i>			
	<ul style="list-style-type: none"> <li>• Subject related scientific and technical literature</li> </ul>			

<b>Detailinformationen</b>																				
8	<b>Inhalte</b> <i>Course topics</i> The structure of the master thesis depends, of course, on the respective problem and type of work. However, the master thesis should comprise the following contents (not necessarily separate chapters): <ul style="list-style-type: none"> <li>• Clarification of the problem and description/ explanation of the chosen approach</li> <li>• Scientific analysis of the state of the art and of the scientific background, limiting the topic to a reasonable extent and content</li> <li>• Description and discussion of possible solutions/ experiments, detailed reasoning for selected solutions/ experiments etc.</li> <li>• Elaboration of the chosen solution or experimental results, respectively</li> <li>• Evaluation and assessment of the results</li> <li>• Conclusions, critical discussion of the result and outlook</li> </ul> The master thesis will describe the content and the outcomes of the master project. The final oral examination takes about 60 min. and will include a 20-min. oral presentation about the master project plus an interview about the surrounding scientific fields.																			
9	<b>Prüfungsform</b> <i>Assessment</i> Type of exam: Master - Thesis (written) and oral final examination (ca 60 minutes)																			
10	<b>Voraussetzung für die Vergabe von Kreditpunkten</b> <i>Requirements for granting of credits</i> Successful writing of the Master - Thesis plus successful passing of the final oral examination as described in item 9																			
11	<b>Weiterführende Veranstaltungen</b> <i>Related courses</i> none																			
12	<b>Zuordnung</b> <i>Classification</i> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 14.28%;">Mathematik &amp; Naturwissenschaft <i>Mathematics &amp; Natural Sciences</i></th> <th style="width: 14.28%;">Ingenieurwissenschaften <i>Engineering Science</i></th> <th style="width: 14.28%;">Ingenieur-anwendungen <i>Engineering Application</i></th> <th style="width: 14.28%;">Entwicklung &amp; Konstruktion <i>Design</i></th> <th style="width: 14.28%;">Werkstoffe <i>Material</i></th> <th style="width: 14.28%;">Wirtschaft, Management, Sprachen <i>General Education</i></th> <th style="width: 14.28%;">Anderes <i>Other</i></th> </tr> </thead> <tbody> <tr> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> </tbody> </table>						Mathematik & Naturwissenschaft <i>Mathematics &amp; Natural Sciences</i>	Ingenieurwissenschaften <i>Engineering Science</i>	Ingenieur-anwendungen <i>Engineering Application</i>	Entwicklung & Konstruktion <i>Design</i>	Werkstoffe <i>Material</i>	Wirtschaft, Management, Sprachen <i>General Education</i>	Anderes <i>Other</i>	X	X	X	X	X	X	X
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13	<b>Modulbeauftragter / Lehrpersonen</b> <i>Responsible person / Lecturers</i> Studiengangsbeauftragter / All professors teaching in the master programme.																			