

Computer Aided Product Development and Manufacturing (English)

Module Title		Computer Aided Product Development and Manufacturing (English)					
Module Title in English		Computer Aided Product Development and Manufacturing					
Module Leader		Prof. Dr.-Ing. Joachim Friedhoff					
Teaching Staff		Prof. Dr.-Ing. Joachim Friedhoff					
Courselanguage/		English					
Code	Workload	Credits	Semester	Semester Offered		Duration	
WM 27: CPE	180 h	6	5th semester	Every Winter semester		1 semester	
1	Type of Course		Scheduled Learning		Independent Study	Approx. Number of Participants	
	Lecture:	2 h/week	4 h/week (= 60 h)		Total: 120 h	Lecture	max. 150 bzw. 120
	Practical					Practical	
	Course:	2 h/week				Course	max. 15
2	Learning Outcomes / Competences						
	<p>Students</p> <ul style="list-style-type: none"> • know main CAE methods, their application, their potential and their restrictions • have a good command of subject-specific terms like modeling, simulation and CNC • understand mathematical/physical basics for modeling and simulation • know strategies for computer aided manufacturing and the dependencies from the existing machine equipment • are able to apply the methods to examples from the product development process, and evaluate the methods with regard to economic aspects • have a good command of software systems for design, FEM, reverse engineering, VR and cnc-manufacturing 						
3	Contents						
	<ul style="list-style-type: none"> • Computer Aided Manufacturing • Scan and Reverse Engineering • Virtual Reality • FEM Multi Body Simulation • Additive Manufacturing 						
4	Teaching Methods						
	Lecture with accompanying tutorial practices						
5	Content-Related Module Prerequisites						
	none						
6	Formal Module Prerequisites						
	none						
7	Type of Exams						
	practical semester report (100%)			Examlanguage: English			
8	Prerequisite for the Granting of Credits						

	Successful passing of the exam and practical course																
9	<p>This Module Appears in:</p> <table border="0"> <thead> <tr> <th>Course of Studies</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Maschinenbau_BPO2010</td> <td>Elective Module</td> </tr> <tr> <td>Maschinenbau_BPO2013</td> <td>Elective Module</td> </tr> <tr> <td>Maschinenbau_BPO2018</td> <td>Elective Module</td> </tr> <tr> <td>Modules in English at HRW</td> <td>Elected Specialization</td> </tr> <tr> <td>Wirtschaftsingenieurwesen - Maschinenbau_BPO2013</td> <td>Elective Module</td> </tr> <tr> <td>Wirtschaftsingenieurwesen - Maschinenbau_BPO2015</td> <td>Elective Module</td> </tr> <tr> <td>Wirtschaftsingenieurwesen - Maschinenbau_BPO2018</td> <td>Elective Module</td> </tr> </tbody> </table>	Course of Studies	Status	Maschinenbau_BPO2010	Elective Module	Maschinenbau_BPO2013	Elective Module	Maschinenbau_BPO2018	Elective Module	Modules in English at HRW	Elected Specialization	Wirtschaftsingenieurwesen - Maschinenbau_BPO2013	Elective Module	Wirtschaftsingenieurwesen - Maschinenbau_BPO2015	Elective Module	Wirtschaftsingenieurwesen - Maschinenbau_BPO2018	Elective Module
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10	<p>Weighting of Grade in Relationship to Final Grade</p> <p>Weighting equals the proportion of module credits in relationship to the total number of grade-relevant credits</p>																
11	<p>Additional Information / Literature</p> <p>Literature: Will be announced at the beginning of the semester</p>																