

**Module: Product Development in Production**

<b>Level</b>	Master	<b>Short Name</b>	PrDev
<b>Responsible Lecturers</b>	Rosenthal, Arnd, Prof. Dr.-Ing.; Kohlhase, Nils, Prof. Dr.-Ing.		
<b>Department, Facility</b>	Mechanical Engineering and Business Administration		
<b>Course of Studies</b>	Mechanical Engineering, Master		
<b>Compulsory/elective</b>	Compulsory	<b>ECTS Credit Points</b>	5
<b>Semester of Studies</b>	2	<b>Semester Hours per Week</b>	4
<b>Length (semesters)</b>	1	<b>Workload (hours)</b>	150
<b>Frequency</b>	WiSe	<b>Presence Hours</b>	60
<b>Teaching Language</b>	English	<b>Self-Study Hours</b>	90

The following section is filled only if there is **exactly one** module-concluding exam.

<b>Exam Type</b>		<b>Exam Language</b>	
<b>Exam Length (minutes)</b>		<b>Exam Grading System</b>	
<b>Learning Outcomes</b>			
<b>Participation Prerequisites</b>			

The previous section is filled only if there is **exactly one** module-concluding exam.

<b>Consideration of Gender and Diversity Issues</b>	<ul style="list-style-type: none"> <li>✓ Use of gender-neutral language (THL standard)</li> <li>✗ Target group specific adjustment of didactic methods</li> <li>✗ Making subject diversity visible (female researchers, cultures etc.)</li> </ul>
<b>Applicability</b>	Computer Aided Techniques (CAT) (1. Semester)
<b>Remarks</b>	

## Module Course: Product Development in Production (Lecture and Practical Work)

(of Module: Product Development in Production)

<b>Course Type</b>	Lecture	<b>Form of Learning</b>	Presence
<b>Mandatory Attendance</b>	no	<b>ECTS Credit Points</b>	5
<b>Participation Limit</b>		<b>Semester Hours per Week</b>	4
<b>Group Size</b>	3	<b>Workload (hours)</b>	150
<b>Teaching Language</b>	English	<b>Presence Hours</b>	60
<b>Study Achievements ("Studienleistung", SL)</b>		<b>Self-Study Hours</b>	90
<b>SL Length (minutes)</b>		<b>SL Grading System</b>	

The following section is filled only if there is a course-specific exam.

<b>Exam Type</b>	Portfolio Exam	<b>Exam Language</b>	English
<b>Exam Length (minutes)</b>		<b>Exam Grading System</b>	One-third Grades

<b>Learning Outcomes</b>	<p>The student understands:</p> <ul style="list-style-type: none"> <li>• The strong interrelationship between R&amp;D and manufacturing</li> <li>• The needs of manufacturing improvement after SOP</li> <li>• The dynamic product change influenced by cooperation between different department from purchase to sales/marketing and engineering</li> <li>• The complex process to start production within the required cost and time limit</li> <li>• R&amp;D methods for</li> </ul>
<b>Participation Prerequisites</b>	<p>Computer Aided Techniques (CAT) (1. Semester)</p> <p>Product Development (PD) (3. Semester)</p>

The previous section is filled only if there is a course-specific exam.

<b>Contents</b>	<ul style="list-style-type: none"> <li>• Module 1: Design for minimum cost: Standardization (Lecture, Prof. Kohlhase)</li> <li>• Module 2: CAD/CAM-Coupling (Lecture and Practical Work, Prof. Rosenthal)</li> <li>• Module 3: Design for minimum cost: Value Analysis; Design for quality: FMEA (Lecture, Prof. Kohlhase)</li> <li>• Module 4: Fast Ramp-Up of Series Production (Prof. Rosenthal)</li> </ul>
<b>Literature</b>	Course packs and/or recommended literature in class
<b>Remarks</b>	<p>Parts of Portfolio Examination:</p> <ol style="list-style-type: none"> <li>1. Participation in practical work (Pass)</li> <li>2. Mid-term test (One-third grades)</li> </ol>

3. Presentation of a product using lecture contents in groups (One-third grades)

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