

Module: Design of Machine Components

Level	Master	Short Name	DesMC
Responsible Lecturers	Choi, Sung-Won, Prof. Dr.-Ing.		
Department, Facility	Mechanical Engineering and Business Administration		
Course of Studies	Mechanical Engineering, Bachelor		
Compulsory/elective	Compulsory	ECTS Credit Points	4
Semester of Studies	5	Semester Hours per Week	4
Length (semesters)	1	Workload (hours)	120
Frequency	WiSe	Presence Hours	60
Teaching Language	English	Self-Study Hours	60

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

Exam Type	Written Exam	Exam Language	English
Exam Length (minutes)	120	Exam Grading System	One-third Grades
Learning Outcomes	<p>The main target of the course is to work out how machine components have to be designed depending on material properties and typical design rules.</p> <p>Students should be able to design machine components according to given requirements e.g. for useful life.</p>		
Participation Prerequisites			

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

Consideration of Gender and Diversity Issues	<ul style="list-style-type: none"> ✓ Use of gender-neutral language (THL standard) ✗ Target group specific adjustment of didactic methods ✗ Making subject diversity visible (female researchers, cultures etc.)
Applicability	
Remarks	This course applies mechanics of materials concepts to the design of machine components. Static and fatigue criteria are introduced and applied to different machine components.

Module Course: Design of Machine Components (Lecture)

(of Module: Design of Machine Components)

Course Type	Lecture	Form of Learning	Presence
Mandatory Attendance	no	ECTS Credit Points	4
Participation Limit		Semester Hours per Week	4
Group Size		Workload (hours)	120
Teaching Language	English	Presence Hours	60
Study Achievements ("Studienleistung", SL)		Self-Study Hours	60
SL Length (minutes)		SL Grading System	

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

Exam Type		Exam Language	
Exam Length (minutes)		Exam Grading System	
Learning Outcomes			
Participation Prerequisites			

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

Contents	<p>Introduction into the subject</p> <p>Static and fatigue failure criteria</p> <ul style="list-style-type: none"> • General phenomena • Calculation fundamentals using shafts and keys as typical examples • Testing as an important part to get information <p>Bearings</p> <ul style="list-style-type: none"> • Journal and roller bearings <p>Gears</p> <ul style="list-style-type: none"> • Spur gears and helical gears <p>Threads</p> <ul style="list-style-type: none"> • Fundamentals of threaded joints <p>Helical springs</p> <ul style="list-style-type: none"> • Principle and basic dimensioning
Literature	<ul style="list-style-type: none"> • Drawing and designing equipment • Literature according to the current list in the script
Remarks	