TECHNISCHE HOCHSCHULE LÜBECK

Module: Computer Aided Techniques in Design

Level	Master	**Short Name**	CAT
Responsible Lecturers	Warnack, Dieter, Prof. Dr.-Ing.		
Department, Facility	Mechanical Engineering and Business Administration		
Course of Studies	Mechanical Engineering, Master		
Compulsory/elective	Compulsory	**ECTS Credit Points**	5
Semester of Studies	1	**Semester Hours per Week**	4
Length (semesters)	1	**Workload (hours)**	150
Frequency	SuSe	**Presence Hours**	60
Teaching Language	English	**Self-Study Hours**	90

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

Exam Type	Written Exam	**Exam Language**	English
Exam Length (minutes)	90	**Exam Grading System**	One-third Grades
Learning Outcomes	The students should be able to understand the underlying physics of different computational methods as named under the contents of lecture below. They should be able to have a critical view on the applicability of the methods.		
Participation Prerequisites	Understanding of lectures in mathematics, fluid mechanics, mechanics of solid, CAD		

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

Consideration of Gender and Diversity Issues	✔ Use of gender-neutral language (THL standard) ✘ Target group specific adjustment of didactic methods ✘ Making subject diversity visible (female researchers, cultures etc.)
Applicability	product development in production, finite element methods
Remarks	

TECHNISCHE HOCHSCHULE LÜBECK

Module Course: Computer Aided Techniques in Design (Lecture)

(of Module: Computer Aided Techniques in Design)

Course Type	Lecture	**Form of Learning**	Presence
Mandatory Attendance	no	**ECTS Credit Points**	3
Participation Limit		**Semester Hours per Week**	3
Group Size		**Workload (hours)**	90
Teaching Language	English	**Presence Hours**	45
Study Achievements ("Studienleistung", SL)		**Self-Study Hours**	45
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	virtual design loop containing fluids and solids design virtual testing of flow features and structure with simplified models geometry definition with CAD virtual testing with 3D models - FEM, CFD outlook – further steps - rapid prototyping - experiments		
Literature	as recommended in class		
Remarks			

Module Course: Computer Aided Techniques in Design (Practical Training)

(of Module: Computer Aided Techniques in Design)

Course Type	Practical Training	**Form of Learning**	Presence
Mandatory Attendance	no	**ECTS Credit Points**	2
Participation Limit		**Semester Hours per Week**	1
Group Size		**Workload (hours)**	60
Teaching Language	English	**Presence Hours**	15
Study Achievements ("Studienleistung", SL)	Practical Training	**Self-Study Hours**	45
SL Length (minutes)		**SL Grading System**	Pass

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	A virtual design is applied to a model wind turbine or an axial pump The underlying methods correspond to the methods as described in contents of lecture.
Literature	as recommended in class
Remarks	