TECHNISCHE HOCHSCHULE LÜBECK

Module: Fluid Mechanics I

Level	Bachelor	**Short Name**	FMe
Responsible Lecturers	Warnack, Dieter, 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	SuSe	**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)	90	**Exam Grading System**	One-third Grades
Learning Outcomes	According to the listed contents of the lecture below, the students should be able to analyse and compute corresponding problems in fluid mechanics.		
Participation Prerequisites	Understanding and participation of lectures in mathematics and thermodynamics		

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	thermodynamics, turbomachinery, wind turbines, heat transfer, CFD
Remarks	

01.07.2019

Module Course: Fluid Mechanics (Lecture)

(of Module: Fluid Mechanics I)

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**	52
Study Achievements ("Studienleistung", SL)		**Self-Study Hours**	38
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	- basic definitions - hydrostatic pressure distribution in liquids and gases - fundamentals about kinematics, balance equations, friction, similarity and characteristic numbers, turbulence, flow separation - one-dimensional theory of stream-tubes and pipe-hydraulics including pumps and liquid turbines - momentum equation of fluid mechanics -> computation of forces - compressible flow
Literature	as recommended in class
Remarks	

Module Course: Fluid Mechanics (Practical Training)

(of Module: Fluid Mechanics I)

Course Type	Practical Training	**Form of Learning**	Presence
Mandatory Attendance	no	**ECTS Credit Points**	1
Participation Limit		**Semester Hours per Week**	1
Group Size		**Workload (hours)**	30
Teaching Language	English	**Presence Hours**	8
Study Achievements ("Studienleistung", SL)	Practical Training	**Self-Study Hours**	22
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	experiments on measurment of flow rates and velocity in liquids and gases
Literature	as recommended in class
Remarks	

01.07.2019