	Studiengang: *Program:*	**Bachelor of Science Maschinenbau** *Bachelor of Science in Mechanical Engineering*			FACH HOCHSCHULE LÜBECK University of Applied Sciences
1	**Module:** *Modul:*	**Dynamics of Machinery** *Mechanismen*			**Englisch** *English*
		Semester *Semester*	**Dauer** *Duration*	**Status** *Status*	**Turnus** *Regular cycle*
		5. Semester	1 Semester	Pflichtfach	jährlich
	Kreditpunkte *Credits*	**Aufwand** *Workload*	**Kontaktzeit** *Contact-hours*	**Selbststudium** *Student's efforts*	
	4 ECTS	120 h	3 SWS = 45 h Vorlesung 1 SWS= 15 h Übung	15h Vor-/Nachbereitung 45 h Prüfungsvorbereitung	

2 Beschreibung
Description

This lesson is intended to cover that field of engineering theory, analysis, design, and practice that is generaly described as mechanisms and kinematics and dynamics of machines. We are using the theory and will work on the computer with virtual prototypes in an rigid body modeller.

3 Lernziele
Learning Outcomes

- Systematic
- Rapid product development
- Virtual Prototypes for Analysis und Synthesis

4 Schlüsselqualifikationen
Key qualifications

Sozialkompetenz	Methodenkompetenz	Selbstkompetenz / Personenkompetenz	Interkulturelle Kompetenz	Medienkompetenz
X	X	X		X

5 Lehrveranstaltung/ -methoden
Course type and methods

Vorlesung
- Lesson with real Models.

Praktikum/Projekt
- Computer appliance of the theory with virtual Prototypes in a rigid body modeler. F.e. sewing machine, SLR-camera, digger, straight line motion

6 Vorbedingungen / Vorkenntnisse
Prerequisites

Dringend empfohlen:
- Projekt 1

7 Arbeitsmittel / Literatur
Required material / Literature

- Handouts
- books as recommended in class
- SW of the labaratory RAM

Detailinformationen

8 Inhalte
Course topics

- Basics
  Mechanisms, transmission function, systematic of mechanisms

- Systematic representation of the mechanisms
  parts of a mechanisms, systematic of the joints, over-determination mechanism, degree of freedom, structures for planar mechanisms, transmission of mechanisms, quality in motion, law of Grashof

- Motion of the coupler plain
  kinematic, special coupler curves, law of Roberts /Tschebyschev

- Kinematic of the coupler plain
  instants, turned velocities, accelerations

- Centrodes
  instantaneous centre of rotation, transmission, centrodes, law of Aronhold, inflection circle

9 Prüfungsform
Assessment

Prüfungsvorleistung / Prerequisite: none
Fachprüfung / Examination: written test

10 Voraussetzung für die Vergabe von Kreditpunkten
Requirements for granting of credits

Successfully passing all individual parts of the examination according to row 9 „Assessment“.

11 Weiterführende Veranstaltungen
Related courses

None

12 Zuordnung
Classification

Mathematik & Naturwissenschaft	Ingenieur-wissenschaften	Ingenieur-anwendungen	Entwicklung & Konstruktion	Werkstoffe	Wirschaft, Management, Sprachen	Anderes
	X	X	X		X	X

13 Modulbeauftragter / Lehrpersonen
Responsible person / Lecturers

Studiengangsbeauftragter (kommissarisch) / Lehrbeauftragte