TECHNISCHE UNIVERSITÄT KAISERSLAUTERN

Module Handbook

TUK MODHB Homapage

Notes on the module handbook of the department Mechanical and Process Engineering

Die hier dargestellten veröffentlichten Studiengang-, Modul- und Kursdaten des Fachbereichs Maschinenbau und Verfahrenstechnik ersetzen die Modulbeschreibungen im KIS und wuden mit Ausnahme folgender Studiengänge am 28.10.2020, bzw. am 13.01.2021 verabschiedet.

Ausnahmen:

- BEd. Lehramt Metalltechnik (Stand WS 19/20): https://www.mv.uni-kl.de/fileadmin/mv/Studium_Lehre/Modulhandbuecher/MHB_Bachelor_Lehramt_Metalltechnik.pdf
- MEd. Lehramt Metalltechnik Werkstoffe und Fertigung (Stand WS 19/20): https://www.mv.uni-kl.de/fileadmin/mv/Studium_Lehre/Modulhandbuecher/MHB_Master_Lehramt_Metalltechnik_-_Werkstoffe_und_Fertigung.pdf
- MEd. Lehramt Metalltechnik Maschinen- und Fahrzeugtechnik (Stand WS 19/20): https://www.mv.uni-kl.de/fileadmin/mv/Studium_Lehre/Modulhandbuecher/MHB_Master_Lehramt_Metalltechnik_-_Fahrzeugtechnik.pdf
- MEd. Lehramt Metalltechnik Verfahrenstechnik (Stand WS 19/20): https://www.mv.uni-kl.de/fileadmin/mv/Studium_Lehre/Modulhandbuecher/MHB_Master_Lehramt_Metalltechnik_-_Verfahrenstechnik.pdf

Course MV-VPE-86732-K-4

Laboratory Computer Aided Styling (2L, 3.0 LP)

Course Type

SWS	Type	Course Form	CP (Effort)	Presence-Time / Self-Study	
2	L	Laboratory course	3.0 CP	28 h	62 h
(2L)			3.0 CP	28 h	62 h

Basedata

SWS	2L
CP, Effort	3.0 CP = 90 h
Position of the semester	1 Sem. in WiSe
Level	[4] Bachelor (Specialization)
Language	[DE] German
Lecturers	Göbel, Jens-Christian, Prof. Dr.-Ing. (PROF | DEPT: MV) Hoffmann, Martin Paul (EXT | DEPT: MV)
Area of study	[MV-VPE] Virtual Product Engineering
Additional informations	Informations about the course
Livecycle-State	[NORM] Active

Notice

The course takes place as a block course during the lecture-free period at the end of the winter semester. The exact dates will be determined during a preliminary meeting at the beginning of the winter semester. Attendance is compulsory for all dates.

Possible Study achievement

- Verification of study performance: **practical laboratory / experimental work**
- Examination number (Study achievement): 10184 ("Laboratory Computer Aided Styling")
- Details of the examination (type, duration, criteria) will be announced at the beginning of the course.

The course takes place as a block event during the lecture-free period in the winter semester. The exact dates will be set in a preliminary briefing. Attendance is compulsory at all appointments.

Proof of successful participation in the laboratory (certificate, confirmation of participation).

Contents

This course imparts basic knowledge in digital modeling by means of concrete design tasks. The software Rhinoceros V7 is used for computer-aided surface design. The aim of the exercise is, in addition to the visualization of concepts, the practice-relevant creation of 3D data sets for transfer to other systems up to the generation of rapid prototyping models (CNC milling, 3D printing).

The beginner course includes the following contents:

- Basics of digital modeling with NURBS, overview and familiarization with 2D functions, working with primitives, transforming and arranging objects.
- Modeling of curves and line objects, construction of surfaces from curves.
- Construction and processing of 3D models with digital tools.
- Visualization (hardware shade, lights, first renderings), area analysis, working with plugins, exporting data, integration into classic product development processes.

Competencies / intended learning achievements

Students are able

- to explain the difference between computer aided design and computer aided styling,

- to explain the basics of digital modeling with NURBS,
- to list the advantages of CAS in contrast to three-dimensional modeling possibilities,
- to create simple models with design software Rhinoceros.

Literature

Will be announced during the lecture.

Materials

Powerpoint presentation, live demo with CAS system.

Requirements for attendance (informal)

None

Requirements for attendance (formal)

None

References to Course [MV-VPE-86732-K-4]

Module	Name	Context	
[MV-VPE-M168-M-4]	Laboratory Computer Aided Styling	P: Obligatory	2L, 3.0 LP