

## Module Handbook

TUK MODHB Homepage

### 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 wurden 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](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](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](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](https://www.mv.uni-kl.de/fileadmin/mv/Studium_Lehre/Modulhandbuecher/MHB_Master_Lehramt_Metalltechnik_-_Verfahrenstechnik.pdf)

## Module MV-CCE-M159-M-4

Processing controlled properties in the polymer welding (M, 3.0 LP)

### Module Identification

Module Number	Module Name	CP (Effort)
MV-CCE-M159-M-4	<i>Processing controlled properties in the polymer welding</i>	3.0 CP (90 h)

### Basedata

CP, Effort	3.0 CP = 90 h
Position of the semester	1 Sem. in WiSe
Level	[4] Bachelor (Specialization)
Language	[DE] German
Module Manager	Lin, Leyu, Dr.-Ing. (WMA   DEPT: MV) Schlarb, Alois, Prof. Dr.-Ing. (PROF   DEPT: MV)
Lecturers	Schlarb, Alois, Prof. Dr.-Ing. (PROF   DEPT: MV) Lin, Leyu, Dr.-Ing. (WMA   DEPT: MV)
Area of study	[MV-CCE] Composite Engineering
Lifecycle-State	[NORM] Active

## Courses

Type/SWS	Course Number	Choice in Module-Part	SL	PL	CP	Sem.
2V	MV-CCE-86967-K-4	P	-	PL1	3.0	WiSe

- About **[MV-CCE-86967-K-4]**: Title: "Processing controlled properties in the polymer welding"; Presence-Time: 28 h; Self-Study: 62 h

## Examination achievement PL1

- Form of examination: **written or oral examination**
- Examination Frequency: each semester
- Examination number: 10951 ("Processing controlled properties in the polymer welding")

Written (60 minutes) or oral (30 minutes) examination

## Evaluation of grades

The grade of the module examination is also the module grade.

### Contents

From **[MV-CCE-86967-K-4] Processing controlled properties in the polymer welding:**

- Joining techniques of the polymers
- Welding techniques of the polymers
- Melt deformation behavior during welding
- Cooling process of the welds
- Characterization of the welds
- Process-structure-property relationships
- Modeling and simulation

### Competencies / intended learning achievements

From **[MV-CCE-86967-K-4] Processing controlled properties in the polymer welding:**

The Students are able to

- understand the basics of polymer welding
- name different welding techniques and their practical application
- optimize the welding products
- explain the effect of process parameters and morphology on the component properties

## Literature

From [MV-CCE-86967-K-4] Processing controlled properties in the polymer welding:

- G. W. Ehrenstein: Handbuch Kunststoff-Verbindungstechnik, Carl Hanser Verlag, München 2004
- V. Mittal: Manufacturing of Nanocomposites with Engineering Plastics, Woodhead Publishing, Kidlington 2015

## Requirements for attendance of the module (informal)

Recommended:

### Modules:

- [MV-CCE-26-M-4] Introduction to Polymer Technology (M, 3.0 LP)

## Requirements for attendance of the module (formal)

None

## References to Module / Module Number [MV-CCE-M159-M-4]

Module-Pool	Name
[MV-ALL-MPOOL-6]	Wahlpflichtmodule allgemein