

## Module Handbook (<https://modhb.uni-kl.de/>)

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### 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 verabschiedet.

Ausnahmen:

- BSc. Bio- und Chemieingenieurwissenschaften (Stand WS 20/21): [https://www.mv.uni-kl.de/fileadmin/mv/Studium\\_Lehre/Modulhandbuecher/MH\\_BSc\\_BCI.pdf](https://www.mv.uni-kl.de/fileadmin/mv/Studium_Lehre/Modulhandbuecher/MH_BSc_BCI.pdf) ([https://www.mv.uni-kl.de/fileadmin/mv/Studium\\_Lehre/Modulhandbuecher/MH\\_BSc\\_BCI.pdf](https://www.mv.uni-kl.de/fileadmin/mv/Studium_Lehre/Modulhandbuecher/MH_BSc_BCI.pdf))
- 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) ([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))
- MSc. Bio- und Chemieingenieurwissenschaften (Stand WS 20/21): [https://www.mv.uni-kl.de/fileadmin/mv/Studium\\_Lehre/Modulhandbuecher/MH\\_Msc\\_BCI.pdf](https://www.mv.uni-kl.de/fileadmin/mv/Studium_Lehre/Modulhandbuecher/MH_Msc_BCI.pdf) ([https://www.mv.uni-kl.de/fileadmin/mv/Studium\\_Lehre/Modulhandbuecher/MH\\_Msc\\_BCI.pdf](https://www.mv.uni-kl.de/fileadmin/mv/Studium_Lehre/Modulhandbuecher/MH_Msc_BCI.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) ([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) ([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) ([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-LAF-B111-M-4

Energy Economy and Power Plant Technology (M, 4.0 LP)

### Module Identification

Module Number	Module Name	CP (Effort)
MV-LAF-B111-M-4	<i>Energy Economy and Power Plant Technology</i>	4.0 CP (120 h)
MV-VKM-B111-M-4	<i>Energy Economy and Power Plant Technology</i>	4.0 CP (120 h)

**Hint concerning Module MV-VKM-B111-M-4:**  
Number used in examination regulations.

## Basedata

CP, Effort	4.0 CP = 120 h
Position of the semester	2 Sem. from WiSe
Level	[4] Bachelor (Specialization)
Language	[DE] German
Module Manager	Günthner, Michael, Prof. Dr.-Ing. (PROF   DEPT: MV) (/staff/313/)
Lecturers	Spitz, Markus, Prof. Dr.-Ing. (EXT   DEPT: MV) (/staff/249/)
Area of study	[MV-LAF] Vehicle Propulsion Systems
Reference course of study	[MV-82.B10-SG] B.Sc. Energy and Process Engineering (/mhb/FB-MV/cos-528/)
Lifecycle-State	[NORM] Active

## Courses

Type/SWS	Course Number	Choice in Module-Part	SL	PL	CP	Sem.
2V	<a href="/mhb/courses/MV-LAF-86372-K-4/">MV-LAF-86372-K-4</a>	P	-	PL1	2.0	WiSe
2V	<a href="/mhb/courses/MV-LAF-86371-K-4/">MV-LAF-86371-K-4</a>	P	-	PL1	2.0	SuSe

- About [\[MV-LAF-86372-K-4\]](#): Title: "Energy Economy"; Presence-Time: 28 h; Self-Study: 32 h
- About [\[MV-LAF-86371-K-4\]](#): Title: "Power Plant Technology"; Presence-Time: 28 h; Self-Study: 32 h

## Examination achievement PL1

- Form of examination: **written or oral examination**
- Examination Frequency: each semester
- Examination number: 10373 ("Power Plant Technology and Energy Economy")

Written (90 minutes) or oral (30 minutes) examination. Still under the old name "Power Plant Technology and Energy Economics" in the QIS.

## Evaluation of grades

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

### Contents

From [\[MV-LAF-86372-K-4\] Energy Economy](#) (/mhb/courses/MV-LAF-86372-K-4/):

This part of the lecture focusses on contents from the field of energy economy, especially electricity and gas:

- Organization of the European and German energy industry
- Energy legislation framework
- Regulatory system
- Basic knowledge of energy trade
- Economic & managerial boundary conditions
- Examples from daily practice

From [MV-LAF-86371-K-4] Power Plant Technology (/mhb/courses/MV-LAF-86371-K-4/):

- Basic knowledge of primary energy sources and alternative energy carriers
- Basic knowledge of power plant types and decentralized power generation
- Current topics in the field of power generation

### Competencies / intended learning achievements

From [MV-LAF-86372-K-4] Energy Economy (/mhb/courses/MV-LAF-86372-K-4/):

Students will be able to

- explain the basic structure of European and German energy production and supply.
- explain the basic legal regulations of energy production and supply.
- explain the basic operational principles of energy trade in Europe and Germany.

From [MV-LAF-86371-K-4] Power Plant Technology (/mhb/courses/MV-LAF-86371-K-4/):

Students will be able to

- name the different types of electrical power generation plants
- explain the basic operation of the different types of power plants
- name and compare the advantages and disadvantages of the different power generation plants

### Literature

- Kugeler, Philippen: Energietechnik; Kalide: Energieumwandlung in Kraft- und Arbeitsmaschinen; Verlag Springer
- Dittmann, Zschernig: Energiewirtschaft; Verlag Teubner Stuttgart
- Erdmann: Energieökonomik: Theorie und Anwendungen; Verlag Springer
- Aktuelle Fachzeitschriften

### Requirements for attendance (informal)

Recommended:

#### Modules:

- [MV-FBK-M156-M-4] Production Management for Mechanical Engineers (M, 2.0 LP) (/mhb/modules/MV-FBK-M156-M-4/)
- [MV-TD-18-M-4] Thermodynamics I (M, 5.0 LP) (/mhb/modules/MV-TD-18-M-4/)

#### Courses

- [MV-VPE-86930-K-4] Entrepreneurship (2V, 2.0 LP) (/mhb/courses/MV-VPE-86930-K-4/)

### Requirements for attendance (formal)

None

### References to Module / Module Number [MV-LAF-B111-M-4]

Course of Study	Section	Choice/Obligation
[MV-82.B10-SG] B.Sc. Energy and Process Engineering (/mhb/FB-MV/cos-528/)	KF2: Energietechnik	[WP] Compulsory Elective

### References to Module / Module Number [MV-VKM-B111-M-4]