

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

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## Module EIT-EES-850-M-7

Power Generation I: Thermal Power Plants (M, 4.0 LP)

### Module Identification

Module Number	Module Name	CP (Effort)
EIT-EES-850-M-7	Power Generation I: Thermal Power Plants	4.0 CP (120 h)

### Basedata

CP, Effort	4.0 CP = 120 h
Position of the semester	1 Sem. in SuSe
Level	[7] Master (Advanced)
Language	[EN] English
Module Manager	Wellßow, Wolfram, Prof. Dr.-Ing. (PROF   DEPT: EIT) (/staff/350/)
Lecturers	Wellßow, Wolfram, Prof. Dr.-Ing. (PROF   DEPT: EIT) (/staff/350/)
Area of study	[EIT-EES] Energy Systems and Energy Management
Reference course of study	[EIT-88.781-SG#2010] M.Sc. Electrical and Computer Engineering [2010] (/mhb/FB-EIT/cos-556/)
Lifecycle-State	[NORM] Active

### Courses

Type/SWS	Course Number	Choice in Module-Part	SL	PL	CP	Sem.
2V+1U	EIT-EES-850-K-7 (/mhb/courses/EIT-EES-850-K-7/)	P	-	PL1	4.0	SuSe

- About [EIT-EES-850-K-7]: Title: "Power Generation I: Thermal Power Plants"; Presence-Time: 42 h; Self-Study: 78 h

### Examination achievement PL1

- Form of examination: **written exam (Klausur) (90 Min.)**
- Examination Frequency: each semester

## Evaluation of grades

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

### Contents

From [EIT-EES-850-K-7] Power Generation I: Thermal Power Plants (/mhb/courses/EIT-EES-850-K-7/):

- Energy demand and need supply
- Primary energy carriers
- Energy transformation processes
- Environmental implications
- Foundations of thermodynamics
- Clausius-Rankine processes
- Joule process
- Technology of coal power plants, gas turbines, and nuclear power plants

### Competencies / intended learning achievements

- Understanding of the structure and the basic properties of energy supply systems and the process steps from primary energy carriers to the final energy forms.
- Know-how of thermodynamic foundations of power plant processes
- Know-how about the most important thermal power plant processes and their characteristics
- Overview on the most important power plant components

### Materials

Script as PDF file

### Requirements for attendance (informal)

#### Modules:

- [EIT-DSV-101-M-2] Fundamentals of Electrical Engineering I (M, 6.0 LP) (/mhb/modules/EIT-DSV-101-M-2/)
- [EIT-FUN-102-M-2] Fundamentals of Electrical Engineering II (M, 6.0 LP) (/mhb/modules/EIT-FUN-102-M-2/)
- [EIT-MEA-181-M-2] Fundamentals of Electrical Power Engineering (M, 5.0 LP) (/mhb/modules/EIT-MEA-181-M-2/)

### Requirements for attendance (formal)

None

## References to Module / Module Number [EIT-EES-850-M-7]

Course of Study	Section	Choice/Obligation
[EIT-88.781-SG#2010] M.Sc. Electrical and Computer Engineering [2010] (/mhb/FB-EIT/cos-556/)	Specialization Modules	[P] Compulsory
[EIT-88.?-SG#2021] M.Sc. Electrical and Computer Engineering [2021] (/mhb/FB-EIT/cos-686/)	Major Power Engineering (ENT)	[P] Compulsory
[EIT-88.?-SG#2021] M.Sc. Automation and Control (A&C) [2021] (/mhb/FB-EIT/cos-676/)	Elective Modules	[W] Elective Module