

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

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Module EIT-EMS-546-M-4

Embedded Processor Lab (M, 3.0 LP)

Module Identification

Module Number	Module Name	CP (Effort)
EIT-EMS-546-M-4	<i>Embedded Processor Lab</i>	3.0 CP (90 h)

Basedata

CP, Effort	3.0 CP = 90 h
Position of the semester	1 Sem. in WiSe/SuSe
Level	[4] Bachelor (Specialization)
Language	[EN] English
Module Manager	Wehn, Norbert, Prof. Dr.-Ing. (PROF DEPT: EIT) (/staff/349/)
Lecturers	Wasenmüller, Uwe, Dipl.-Math. (WMA DEPT: EIT) (/staff/616/)
Area of study	[EIT-EMS] Microelectronic Systems Design
Lifecycle-State	[NORM] Active

Courses

Type/SWS	Course Number	Choice in Module-Part	SL	PL	CP	Sem.
2L	EIT-EMS-546-K-4 (/mhb/courses/EIT-EMS-546-K-4/)	P	-	PL1	3.0	WiSe/SuSe

- About [EIT-EMS-546-K-4]: Title: "Embedded Processor Lab"; Presence-Time: 28 h; Self-Study: 62 h

Examination achievement PL1

- Form of examination: **practical laboratory exam**
- Examination Frequency: each semester

Evaluation of grades

The module is not graded.

Contents

From [EIT-EMS-546-K-4] **Embedded Processor Lab** (/mhb/courses/EIT-EMS-546-K-4/):

- Modellierung einer DLX RISC Architektur in VHDL auf Register-Transfer Ebene
- Cachecontroller für DLX-RISC Architektur
- Einsatz eines aktuellen Mikrocontrollers in einer virtuellen Plattform für eine Bildverarbeitungsanwendung

Competencies / intended learning achievements

Nach Abschluss des Moduls können Sie...

- ... einfache Rechnerarchitekturen in synthetisierbarem VHDL entwerfen und implementieren.
- ... State-of-the-Art EDA Werkzeuge anwenden.
- ... unterschiedliche Abstraktionsebenen für die Beschreibung digitaler Systeme erklären und anwenden.
- ... in einem Team eine praktische Aufgabenstellung lösen.

Requirements for attendance (informal)

VHDL-Kenntnisse

Modules:

- [EIT-EIS-571-M-4] Architecture of Digital Systems I (M, 4.0 LP) (/mhb/modules/EIT-EIS-571-M-4/)

Requirements for attendance (formal)

None

References to Module / Module Number [EIT-EMS-546-M-4]

Course of Study	Section	Choice/Obligation
[EIT-82.781-SG#2019] B.Sc. Electrical and Computer Engineering [2019] (/mhb/FB-EIT/cos-523/)	Major-Specific Advanced Subjects	[P] Compulsory
[EIT-82.781-SG#2019] B.Sc. Electrical and Computer Engineering [2019] (/mhb/FB-EIT/cos-523/)	Elective Subjects	[W] Elective Module
[EIT-88.781-SG#2010] M.Sc. Electrical and Computer Engineering [2010] (/mhb/FB-EIT/cos-556/)	Theoretical Part	[P] Compulsory
[EIT-88.781-SG#2010] M.Sc. Electrical and Computer Engineering [2010] (/mhb/FB-EIT/cos-556/)	Theoretical Part	[P] Compulsory
[EIT-88.A44-SG#2018] M.Sc. Media and Communication Technology [2018] (/mhb/FB-EIT/cos-568/)	Technical Elective Subjects	[W] Elective Module
[EIT-82.?-SG#2021] B.Sc. Electrical and Computer Engineering [2021] (/mhb/FB-EIT/cos-685/)	Technical Elective Modules	[W] Elective Module
[EIT-88.?-SG#2021] M.Sc. Electrical and Computer Engineering [2021] (/mhb/FB-EIT/cos-686/)	Major Communication Technology (KOM)	[P] Compulsory
[EIT-82.?-SG#2021] B.Sc. Media and Communication Technology [2021] (/mhb/FB-EIT/cos-681/)	Technical Elective Modules	[W] Elective Module
[EIT-88.?-SG#2021] M.Sc. Media and Communication Technology [2021] (/mhb/FB-EIT/cos-688/)	Technical Elective Modules	[W] Elective Module
[EIT-88.A20-SG#2021] M.Sc. European Master in Embedded Computing Systems (EMECS) [2021] (/mhb/FB-EIT/cos-566/)	Core Subjects	[WP] Compulsory Elective
[EIT-88.?-SG#2021] M.Sc. Automation and Control (A&C) [2021] (/mhb/FB-EIT/cos-676/)	Elective Modules	[W] Elective Module
[EIT-88.?-SG#2021] M.Sc. Embedded Computing Systems (ESY) [2021] (/mhb/FB-EIT/cos-677/)	Core Program	[WP] Compulsory Elective