Module EIT-EIS-521-M-7

Embedded Systems Laboratory (M, 5.0 LP)

Module Identification

Module Number	Module Name	CP (Effort)
EIT-EIS-521-M-7	*Embedded Systems Laboratory*	5.0 CP (150 h)

Basedata

CP, Effort	5.0 CP = 150 h
Position of the semester	1 Sem. in WiSe
Level	[7] Master (Advanced)
Language	[EN] English
Module Manager	Stoffel, Dominik, apl. Prof. Dr.-Ing. (WMA | DEPT: EIT) (/staff/623/)
Lecturers	Stoffel, Dominik, apl. Prof. Dr.-Ing. (WMA | DEPT: EIT) (/staff/623/)
Area of study	[EIT-EIS] Electronic Design Automatization
Reference course of study	[EIT-88.781-SG#2010] M.Sc. Electrical and Computer Engineering [2010] (/mhb/FB-EIT/cos-556/)
Livecycle-State	[NORM] Active

Courses

Type/SWS	Course Number	Choice in Module-Part	SL	PL	CP	Sem.
4L	**EIT-EIS-521-K-7** (/mhb/courses/EIT-EIS-521-K-7/)	P	-	PL1	5.0	WiSe

- About **[EIT-EIS-521-K-7]**: Title: "Embedded Systems Laboratory"; Presence-Time: 56 h; Self-Study: 94 h

Examination achievement PL1

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

Evaluation of grades

The module is not graded.

Contents

From [EIT-EIS-521-K-7] Embedded Systems Laboratory (/mhb/courses/EIT-EIS-521-K-7/)**:**

- Requirements definition
- Architecture design (hardware, software, communication infrastructure)
- Hardware design using VHDL and Verilog
- Hardware implementation (FPGA)
- Software design and implementation
- System integration
- Verification and test

Competencies / intended learning achievements

After completing this module you can...

- ... explain the interaction of hardware and software in an embedded computing system.
- ... design, verify, implement and test hardware components in an embedded system.
- ... write low-level software programs that communicate with hardware components.
- ... integrate and test an embedded computing system prototype.

Requirements for attendance (informal)

RTL design with VDHL or Verilog

Modules:

- [EIT-EIS-571-M-4] Architecture of Digital Systems I (M, 4.0 LP) (/mhb/modules/EIT-EIS-571-M-4/)
- [EIT-EIS-573-M-4] Architecture of Digital Systems II (M, 4.0 LP) (/mhb/modules/EIT-EIS-573-M-4/)
- [EIT-RTS-706-M-4] Assembler Programming (M, 4.0 LP) (/mhb/modules/EIT-RTS-706-M-4/)

Requirements for attendance (formal)

None

References to Module / Module Number [EIT-EIS-521-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.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. Embedded Computing Systems (ESY) [2021] (/mhb/FB-EIT/cos-677/)	Core Program	[WP] Compulsory Elective