

Faculty of Electrical Engineering and Information Technology

# Catalogue of Elective Modules

for the Master's program

## Electrical Engineering and Information Technology

Version from 04. September 2024

**This Document is for information only.**

**The German version is legally binding.**

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## **Elective modules**

Elective modules in the extent specified in the study regulations have to be chosen. The required number of credit points must be achieved.

### **Technical elective modules**

Technical elective modules can be chosen from the list provided, whereby it is recommended to set a focus on one specific area.

### **Non-technical elective modules**

Modules from the entire range of OvGU can be selected - but without engineering modules. Explicitly allowed are also foreign languages, for example German for foreign students.

## Attachment: Study- and Examination Schedule of the Master's Degree Program in Electrical Engineering and Information Technology for elective modules

### Legend for the study and examination schedule

**SWS** = Semester hour per week (time required for the course per week)  
**V** = Lecture  
**Ü** = Tutorial  
**P** = Internship  
**S** = Seminar  
**CP** = Credit Points  
**PL** = Type of examination performance

**SoSe** = Summer semester  
**WiSe** = Winter semester  
**K** = Written examination (stated duration in minutes)  
**M** = Oral examination  
**PRO** = Research Project  
**R** = Referat (Presentation)  
**\*** = Please refer to the module handbook for the examination performance

In accordance with §14 (11) of the General Study and Examination Regulation, the person in charge of the module can specify examination prerequisites for each module, which are required as prerequisites for obtaining CP.

### Module overview of the technical elective modules

Allocation: Choice of modules according to the study plan. The required number of CP can be taken from the programme-specific study and examination regulation.

Master Electrical Engineering and Information Technology	SWS		Semester								CP Σ	
			1. (WiSe)		2. (SoSe)		3.		4.			
			CP	PL	CP	PL	CP	PL	CP	PL		
Modules	V Ü P S	V Ü P S										
<b>Automation Systems</b>												<b>30</b>
Automation Lab	0 0 2 0						5	M				5
Digital Automation Systems	2 1 0 0					5	K90					5
Non-linear Control	2 1 0 0			5	M							5
Optimal Control / Predictive Control	2 1 0 0					5	K120					5
Process Control	2 1 0 0			5	M							5
State Estimation	2 2 0 0			5	K90							5
<b>Total credit points by semester in this field</b>						<b>15</b>		<b>15</b>				
<b>Information and Communication Technology</b>												<b>61</b>
Automatic Speech Recognition Systems	2 1 1 0			5	K90							5
Chatbot-Challenge	2 0 0 2			10	*							10

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Master Electrical Engineering and Information Technology	SWS V Ü P S   V Ü P S		Semester								CP Σ
			1. (WiSe)		2. (SoSe)		3.		4.		
			CP	PL	CP	PL	CP	PL	CP	PL	
Modules											
<b>Information and Communication Technology</b>											
Computed Tomography I - Methods on CT	2	1	0	0			5	K60			5
Digital Information Processing Laboratory	0	0	2	1			5	M			5
Heterogeneous Computing	2	1	0	0			5	M			5
Image Coding	2	1	0	0			5	M			5
Microwave Engineering	2	1	0	0			5	K90			5
Microwave Measurement Techniques (µWMT) / Mikrowellenmesstechnik	2	1	1	0			6	M			6
Seminar „System-on-Chip“	0	0	0	3			5	R			5
System-on-Chip	2	1	0	0			5	M			5
Theoretical Neuroscience II	3	2	0	0			5	M			5
<b>Total credit points by semester in this field</b>					35		26				
<b>Microsystems</b>											
The field "Microsystems" is currently not offered											
<b>Power and Energy</b>											
35											
Control of AC Drives	2	1	0	0			5	K90			5
Digital Protection of Power Networks	2	1	0	0			5	K120			5
Electromagnetic Compatibility (EMC)	2	2	0	0			5	M			5
Power Electronic Components and Systems	2	1	0	0			5	K90			5
Power System Economics and Special Topics	2	1	0	0			5	K90			5
Power System Dynamics	2	1	0	0			5	M			5
Renewable Energy Sources	2	1	0	0			5	K90			5
<b>Total credit points by semester in this field</b>					15		20				
<b>General</b>											
30											
Basics of Medical Image Science	2	1	0	0			5	K90			5
Integrated Project	0	0	0	6			10	PRO			10
Micro optics	2	2	0	0			5	M			5
Micromechanics	2	2	0	0			5	M			5
Microsystems Processes and Technologies	3	0	0	0			5	M			5
<b>Total credit points by semester in this field</b>					10		20				