Fachhochschule Dortmund
University of Applied Sciences and Arts

Master Embedded Systems Engineering

we focus on students

Study Programme overview

1. Semester (Wintersemester)					
Module	**Number**	**Workload**			**ECTS**
		Contact Time		**Self Study**	
		SWS	**hours**	**(hours)**	
Mathematics for Signals & Controls	MOD1-01	4	60	120	6
Distributed and Parallel Systems	MOD1-02	4	60	120	6
Embedded Software Engineering	MOD1-03	4	60	120	6
Requirements Engineering	MOD1-04	4	60	120	6
Scientific & Transversal Skills	MOD1-05	4	60	120	6
Gesamt		**20**	**300**	**600**	**30**

2. Semester (Sommersemester)					
Module	**Number**	**Workload**			**ECTS**
		Contact Time		**Self Study**	
		SWS	**hours**	**(hours)**	
Mechatronic Systems Engineering	MOD2-01	4	60	120	6
Microelectronics & HW/SW Co-Design	MOD2-02	4	60	120	6
R&D Project Management	MOD2-03	4	60	120	6
Signals and Control Systems 1	MOD2-04	4	60	120	6
Elective 1 *	MOD2-05	4	60	120	6
Gesamt		**20**	**300**	**600**	**30**

3. Semester (Wintersemester)					
Module	**Modulnummer**	**Workload**			**ECTS**
		Contact Time		**Self Study**	
		SWS	**hours**	**(hours)**	
Elective 2 *	MOD3-01	4	60	120	6
Elective 3 *	MOD3-02	4	60	120	6
Research Project (Thesis)	MOD3-03	0	0	540	18
Gesamt		**8**	**120**	**780**	**30**

2. Semester (Sommersemester)					
Module	**Modulnummer**	**Workload**			**ECTS**
		Contact Time		**Self Study**	
		SWS	**hours**	**(hours)**	
Master Thesis and Colloquium	P	0	0	900	30
Gesamt		**0**	**0**	**900**	**30**

SWS 0 weekly hours per semester

* cf. Catalogue of Elective Modules

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Catalogue of Elective Modules

Wahlpflichtmodule					
Module	**Number**	**Workload**			**ECTS-Punkte**
		Contact Time		**Self Study**	
		SWS	**hours**	**(hours)**	
Applied Embedded Systems	MOD-E01	4	60	120	6
Smart Home & Smart Building & Smart City	MOD-E02	4	60	120	6
SW Architectures for Embedded and Mechatronic Systems	MOD-E03	4	60	120	6
Signals and Systems for Automated Driving ***	MOD-E04	4	60	120	6
IoT & Edge Computing	MOD-E05	4	60	120	6
Computer Vision ***	MOD-E06	4	60	120	6
Signals and Control Systems 2 ***	MOD-E07	4	60	120	6
Formal Methods	MOD-E08	4	60	120	6
System on Chip Design	MOD-E09	4	60	120	6
Automotive Systems	MOD-E10	4	60	120	6
Hardware Project	MOD-E11	4	60	120	6
Model Based Systems Engineering	MOD-E12	4	60	120	6
Software for Robots	MOD-E13	4	60	120	6
Embedded Systems Hardware Design and Rapid Prototyping	MOD-E14	4	60	120	6
Trends in Embedded and Mechatronic Systems	MOD-E11	4	60	120	6
Research Seminar	S			180	6
Modul(e) anderer kooperierenden Hochschulen					
Modul(e) hochschulinterne Studiengänge**					

* From the Catalogue of Compulsory Electives a minimum of 3 modules must be completed with an examination (MOD2-05, MOD3-01 and MOD3-02). More than 18 credit points may be obtained which will be marked in the certificate.

** If compulsory elective modules of the Ruhr Master School (RMS) are part of the course programmes of Dortmund University of Applied Sciences and Arts (Fachhochschule Dortmund), students must complete the examinations within their own course programme.

Upon application, modules of the course programmes participating in the RMS may be elected.

*** At least 1 of the following Modules must be taken as an Elective: MOD-E04, MOD-E06, or MOD-E07.