

## Appendix A: Course Schedule

**for the study programme Engineering Computer Sciences B.Eng.**

Please note: The German version of this document is the legally binding version. The English translation provided here is for information purposes only.

First semester			L	ST	E	P/S	SSS	CP
Module number	Module title	Module ID						
1052	Introduction to Engineering Computer Sciences	EII	2	2	0	0	0	5
1105	Computer Science 1	INF1	2	1	0	1	0	5
1147	Mathematics A	MA A	4	4	0	0	0	10
1195	Physics 1	PH1	2	1	0	1	0	5
1085	Technical English 1	FSE1	0	4	0	0	0	5
Total CP:								30
Second semester			L	ST	E	P/S	SSS	CP
Module number	Module title	Module ID						
1001	Algorithms and Data Structures	AUDS	2	2	0	0	0	5
1325	Electrotechnical basics	GE	2	1	0	1	0	5
1109	Computer Science 2	INF2	2	1	0	1	0	5
1153	Mathematics B	MA B	2	2	0	0	0	5
1158	Mathematics C	MA C	2	2	0	0	0	5
1200	Physics 2	PH2	2	1	0	1	0	5
Total CP:								30
Third semester			L	ST	E	P/S	SSS	CP
Module number	Module title	Module ID						
1015	Automation Technology	AT	2	1	0	1	0	5
1024	Business Administration	BW	3	1	0	0	0	5
1070	Digital Electronics I	DEL1	2	1	0	1	0	5
1181	Network Technology	NW	2	1	0	1	0	5
1245	Software Engineering	SWE	2	1	0	1	0	5
1218	Team Project: Engineering Computer Sciences	PINI	0	0	0	2	0	5
Total CP:								30
Fourth semester			L	ST	E	P/S	SSS	CP
Module number	Module title	Module ID						
1028	Digital Image Processing and Pattern Matching	BVM	2	1	0	1	0	5
1045	Digital Electronics II	DEL2	2	1	0	1	0	5
1314	Machine Learning and Data Mining	MLDM	2	1	0	1	0	5
1007	Numerical Mathematics	NM	2	0	2	0	0	5
1233	Feedback Control Engineering	RT	2	1	0	1	0	5
9001	Elective Module	WM			0	0		5
Total CP:								30

Fifth semester			L	ST	E	P/S	SSS	CP
Module number	Module title	Module ID						
1173	Microcontrollers	MC	2	1	0	1	0	5
1008	Numerical Simulation	NSI	2	0	1	1	0	5
1231	Computer Architectures	RA	2	1	0	1	0	5
1244	Simulation Technology	SIM	2	1	0	1	0	5
1219	Student Research Project (Project 2)	STA	0	0	0	2	0	5
9001	Elective Module	WM			0	0		5
Total CP:								30
Sixth semester			L	ST	E	P/S	SSS	CP
Module number	Module title	Module ID						
1023	Operating Systems	BS	2	1	0	1	0	5
1041	Database Applications	DBA	2	1	0	1	0	5
1079	Embedded Systems	ESYS	2	1	0	1	0	5
1006	High-Performance Computing	HPC	2	0	1	1	0	5
9001	Elective Module	WM			0	0		5
9001	Elective Module	WM			0	0		5
Total CP:								30
Seventh semester			L	ST	E	P/S	SSS	CP
Module number	Module title	Module ID						
1291	Bachelor Thesis	BA	0	0	0	0	0	12
1290	Colloquium	KOL	0	0	0	0	0	3
1292	Practical Project / Internship	PRA	0	0	0	0	0	15
Total CP:								30

Abbreviations of the teaching forms: L = lecture, ST = tuition in seminars, E = exercise, S = seminar, P = practical, SSS = supervised self-study (all data in semester credit hours);

CP = credit points

W/S = winter/summer semester

The practical project can optionally be replaced by a semester abroad.

Elective Modules Engineering Computer Sciences									
Module number	Module title	Module ID	W/S	L	ST	E	P/S	SSS	CP
3349	Assistance Systems	ASY	S	2	0	1	1	1.5	5
3344	Cluster Computing	CLC	W	2	0	1	1	1	5
3341	Data Mining	DM	S	2	0	1	1	1	5
1095	Building Automation	GAT	S	2	2	0	0	0	5
3135	Gender and Diversity: Success Factors for Companies	GUD	W	2	2	0	0	0	5
3210	Business Process Modelling and IT Systems	GPM	W	2	0	1	1	1	5
1101	High-Frequency Electronics	HFE	W	2	1	0	1	0	5
3211	Innovation and Project Management	IPM	W	2	0	2	0	1	5

1232	Integrated Product Development	IP	S	2	2	0	0	0	5
1311	Sensors and Actuators	ISS	S	2	1	0	1	0	5
1115	International Management/Marketing	IMM	S	2	2	0	0	0	5
1118	Investment and Financing	FIN	S	3	1	0	0	0	5
1130	Cost and Performance Accounting	KUL	W	2	2	0	0	0	5
1133	Cryptography	KRY	W	0	4	0	0	0	8
3123	Power Electronics	LE	W	2	0	1	1	1.5	5
3355	Marketing and Technical Sales	MUV	S	2	0	2	0	1	5
1169	Metrology	MT	W	2	1	0	1	0	5
1174	Microsystems Technology	MST	S	2	0	0	2	0	5
1180	Networks and Bus Systems	NBS	W	2	2	0	0	0	5
1300	Optical Systems Engineering	OST	S	2	1	0	1	0	5
1190	Optoelectronics	OPT	W	2	1	0	1	0	5
1192	Personnel and Organisation	PUO	S	3	1	0	0	0	5
1229	Quality Management	QM	S	2	2	0	0	0	5
1240	Robotics	ROB	W	2	1	0	1	0	5
1242	Sensors	SEN	S	2	1	0	1	0	5
1121	Signals and Systems	SigSys	S	2	1	0	1	0	5
3351	Social Media and Natural Language Processing	SMNLP	W	2	0	2	0	1	5
3224	Statistics	STAT	W	2	0	2	0	1	5
1086	Technical English 2	FSE2	S	0	4	0	0	0	5
1299	Theoretical Computer Science	TI	S	0	4	0	0	0	5

## Appendix B: Module catalogue

for the study programme Engineering Computer Sciences B.Eng.

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Integrated Product Development .....	64
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Cryptography .....	74
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Mathematics A .....	81
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Network Technology .....	92
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\*Translations of these module descriptions are currently not available.

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	Lecture, seminar-based teaching and programming exercises	
5	Participation requirements:	
	Formal:	None
	Content:	Basic programming knowledge
6	Forms of assessment:	
	Written examination, combination examination or oral examination	
7	Prerequisite for the award of credit points:	
	Module examination pass and course assessment	
8	Application of the module (in the following study programmes)	
	Engineering Computer Sciences B.Eng.	
9	Importance of the grade for the final grade:	
	according to BRPO	
10	Module Coordinator:	
	Prof. Dr. rer. nat. Axel Schneider	
11	Other information:	
	Literature will be announced at the beginning of the course.	
12	Language:	
	German	





	<p>Computer Vision:</p> <ul style="list-style-type: none"> <li>• Principles</li> <li>• Three-dimensional object recognition</li> <li>• Computer graphics</li> <li>• Basics of 3D representation</li> <li>• Augmented Reality</li> <li>• Virtual Reality</li> </ul> <p>Voice control of technical systems:</p> <ul style="list-style-type: none"> <li>• Basics and application examples</li> </ul>				
4	<p>Forms of teaching:</p> <p>Learning units for self-study, classroom events in the form of exercises and practicals</p>				
5	<p>Participation requirements:</p> <table border="1"> <tr> <td>Formal:</td><td></td></tr> <tr> <td>Content:</td><td> <p>In-depth computer science knowledge  Knowledge of machine learning incl. speech and image recognition  Module "HMI and User Interfaces"</p> </td></tr> </table>	Formal:		Content:	<p>In-depth computer science knowledge  Knowledge of machine learning incl. speech and image recognition  Module "HMI and User Interfaces"</p>
Formal:					
Content:	<p>In-depth computer science knowledge  Knowledge of machine learning incl. speech and image recognition  Module "HMI and User Interfaces"</p>				
6	<p>Forms of assessment:</p> <p>Written examination or oral examination</p>				
7	<p>Prerequisite for the award of credit points:</p> <p>Module examination pass and course assessment</p>				
8	<p>Application of the module (in the following study programmes)</p> <p>Digital Technologies (work-integrated) B.Eng.</p>				
9	<p>Importance of the grade for the final grade:</p> <p>according to BRPO</p>				
10	<p>Module Coordinator:</p> <p>N. N.</p>				
11	<p>Other information:</p>				
12	<p>Language:</p> <p>German</p>				



9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr.-Ing. Martin Kohlhasse
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German





	Formal:	None
	Content:	<ul style="list-style-type: none"> <li>• Basic computer science and programming skills (especially in C)</li> <li>• Basic knowledge of computer architectures</li> </ul> Modules: 1105 Computer Science 1; 1109 Computer Science 2; 1231 Computer Architectures;
6	Forms of assessment: Written examination or oral examination	
7	Prerequisite for the award of credit points: Module examination pass and course assessment	
8	Application of the module (in the following study programmes) Engineering Computer Sciences B.Eng. and Industrial Engineering and Management B.Sc.	
9	Importance of the grade for the final grade: according to BRPO	
10	Module Coordinator: Prof. Dr.-Ing. Wolfram Schenck	
11	Other information: Literature will be announced at the beginning of the course.	
12	Language: German	





	Literature will be announced at the beginning of the course.
12	Language: German



6	Forms of assessment: Written examination
7	Prerequisite for the award of credit points: Module examination pass and course assessment
8	Application of the module (in the following study programmes) Engineering Computer Sciences B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr. rer. nat. Antje Ohlhoff
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German



11	Other information:
12	Language: German



6	Forms of assessment: Written examination or oral examination
7	Prerequisite for the award of credit points: Module examination pass and course assessment
8	Application of the module (in the following study programmes) Digital Technologies (work-integrated) B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: N. N.
11	Other information:
12	Language: German





7	Prerequisite for the award of credit points: Module examination pass and course assessment
8	Application of the module (in the following study programmes) Engineering Computer Sciences (B.Eng.) and Mechatronics (B.Sc.)
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr.-Ing. Lutz Grünwoldt
11	Other information: Literature will be announced at the beginning of the course. A script will be provided.
12	Language: German











9	Importance of the grade for the final grade:
10	Module Coordinator: Prof. Dr. rer. nat. Axel Schneider
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German









	<ul style="list-style-type: none"> <li>- Aspects of hardware/software co-design</li> <li>- Control of mechatronic systems such as robots</li> </ul>	
4	Forms of teaching: Lecture, seminar-based teaching, practical course	
5	Participation requirements:	
	Formal:	None
	Content:	Basic knowledge in the fields of digital technology, programming and computer architectures Modules: 1045 Digital Electronics II; 1070 Digital Electronics I; 1104 Computer Science 1
6	Forms of assessment: Written examination, combination examination or oral examination	
7	Prerequisite for the award of credit points: Module examination pass and course assessment	
8	Application of the module (in the following study programmes) Electrical Engineering B.Eng., Engineering Computer Sciences B.Eng., Mechatronics B.Sc. and Industrial Engineering and Management B.Sc.	
9	Importance of the grade for the final grade: according to BRPO	
10	Module Coordinator: Prof. Dr. rer. nat. Axel Schneider	
11	Other information: Literature will be announced at the beginning of the course.	
12	Language: German	



	Engineering Computer Sciences B.Eng. and Renewable Energies B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr. rer. nat. Jörn Loviscach
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German



6	Forms of assessment: Term paper, written examination, project work or oral examination
7	Prerequisite for the award of credit points: Module examination pass
8	Application of the module (in the following study programmes) Applied Mathematics B.Sc., Apparative Biotechnology B.Sc., Electrical Engineering B.Eng., Computer Engineering B.Eng., Mechanical Engineering B.Eng., Mechatronics B.Sc., Renewable Energies B.Eng. and Industrial Engineering and Management B.Sc.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr.-Ing. Andrea Kaimann
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German





	according to BRPO
10	Module Coordinator: Prof. Dr.-Ing. Jörg Nottmeyer
11	Other information: -
12	Language: German



	<ul style="list-style-type: none"> <li>• General Introduction to High Performance Computing [<a href="https://hpc.ad.fh-bielefeld.de/HPC">https://hpc.ad.fh-bielefeld.de/HPC</a>] (Tasks, basic architectures, history)</li> <li>• Parallel computer and system architectures for HPC: Modern high-performance CPUs, symmetrical multiprocessor systems (SMPs), parallel computers with distributed memory, and clusters of PCs/workstations</li> <li>• Programming parallel and distributed computer systems</li> <li>• Practical handling of High Performance Computing Clusters Typical HPC applications</li> </ul>
4	Forms of teaching: Lecture, exercise, practical course, self-study
5	Participation requirements:
	Formal: None
	Content: <ul style="list-style-type: none"> <li>• Sound computer science and programming skills (especially in C)</li> <li>• Basic knowledge of operating systems Basic knowledge of networks and their architecture</li> <li>• Basic knowledge of mathematics</li> </ul> Modules: 1001 Algorithms and Data Structures; 1105 Computer Science 1; 1231 Computer architectures;
6	Forms of assessment: Term paper, combination examination or project work
7	Prerequisite for the award of credit points: Module examination pass
8	Application of the module (in the following study programmes) Engineering Computer Sciences B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr. rer. nat. Christian Schröder
11	Other information: Literature will be announced in the course. Teaching language: German, original English literature
12	Language: German



	Prof. Dr.-Ing. Rüdiger Schultheis
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German



	Written or oral examination; in each case with preliminary examination performance
7	Prerequisite for the award of credit points: Module examination pass with preliminary examination
8	Application of the module (in the following study programmes) Engineering Computer Sciences B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr.-Ing. Wolfram Schenck
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German





	Written or oral examination; in each case with preliminary examination performance
7	Prerequisite for the award of credit points: Module examination pass with preliminary examination
8	Application of the module (in the following study programmes) Engineering Computer Sciences B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr.-Ing. Wolfram Schenck
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German



	(Strategic preparation / initiation, planning, monitoring and control of innovation projects) <ul style="list-style-type: none"> <li>• Leading project and innovation teams (social structures, special communication situations in projects, real and virtual project work, problem analysis and concepts for action)</li> <li>• Stakeholder management (factors influencing the successful management of projects)</li> <li>• Methods of idea generation (creativity techniques etc.)</li> <li>• Trainings and workshops on selected technical examples</li> <li>• Basic aspects of industrial property protection</li> </ul>				
4	Forms of teaching: Learning units for self-study, classroom sessions in the form of exercises				
5	Participation requirements: <table border="1"> <tr> <td>Formal:</td><td>-</td></tr> <tr> <td>Content:</td><td>-</td></tr> </table>	Formal:	-	Content:	-
Formal:	-				
Content:	-				
6	Forms of assessment: Term paper, written examination, project work or oral examination				
7	Prerequisite for the award of credit points: Module examination pass				
8	Application of the module (in the following study programmes) Digital Logistics (work-integrated) B.Eng., Digital Technologies (work-integrated) B.Eng., Mechatronics /Automation (work-integrated) B.Eng., Product Service Engineering work-integrated B.Eng. and Industrial Engineering (work-integrated) B.Eng.				
9	Importance of the grade for the final grade: according to BRPO				
10	Module Coordinator: Prof. Dr.-Ing. Michael Fahrig				
11	Other information: -				
12	Language: German				





7	Prerequisite for the award of credit points: Module examination pass and course assessment
8	Application of the module (in the following study programmes) Electrical Engineering B.Eng., Engineering Computer Sciences B.Eng., Mechatronics B.Sc. and Industrial Engineering and Management B.Sc.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr.-Ing. Joachim Waßmuth
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German



	Module examination pass
8	Application of the module (in the following study programmes) Engineering Computer Sciences B.Eng., Mechatronics B.Sc. and Industrial Engineering B.Sc.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr. rer. oec. Klaus Rüdiger
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German





	Renewable Energies study programme: Elective module
12	Language: German





11	Other information: Literature will be announced at the beginning of the course.
12	Language: German





6	Forms of assessment: Term paper, written examination, project work or oral examination
7	Prerequisite for the award of credit points: Module examination pass and course assessment
8	Application of the module (in the following study programmes) Mechatronics/Automation (work-integrated) B.Eng. and Industrial Engineering and Management (work-integrated) B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr.-Ing. Michael Leuer
11	Other information: Supplementary literature will be announced at the beginning of the course.
12	Language: German





10	Module Coordinator: Prof. Dr. rer. pol. Hildegard Manz-Schumacher
11	Other information: Literature will be announced before the start of the course.
12	Language: German



	Formal:	
	Content:	<ul style="list-style-type: none"> <li>• Content of all mathematics modules in the bachelor's degree study programme in Engineering Computer Sciences</li> <li>• General advanced programming knowledge (from the Computer Science 1 and Computer Science 2 modules)</li> <li>• Advanced programming knowledge in Python (from the Algorithms and Data Structures module)</li> </ul> <p>Modules:  1001 Algorithms and Data Structures;  1105 Computer Science 1;  1109 Computer science 2;  1147 Mathematics A;  1153 Mathematics B;  1158 Mathematics C</p>
6	Forms of assessment: Oral examination or examination accompanying the course	
7	Prerequisite for the award of credit points: Module examination pass	
8	Application of the module (in the following study programmes) Engineering Computer Sciences B.Eng.	
9	Importance of the grade for the final grade: according to BRPO	
10	Module Coordinator: Prof. Dr.-Ing. Wolfram Schenck	
11	Other information: Literature will be announced in the course.	
12	Language: German	



8	Application of the module (in the following study programmes) Engineering Computer Sciences B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr. rer. nat. Antje Ohlhoff
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German



	Written examination; each with preliminary examination
7	Prerequisite for the award of credit points: Module examination pass with preliminary examination
8	Application of the module (in the following study programmes) Engineering Computer Sciences B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr. rer. nat. Antje Ohlhoff
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German





10	Module Coordinator: Prof. Dr. rer. nat. Jörg Horst
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German















9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr.-Ing. Lutz Grünwoldt
11	Other information: Literature will be announced at the beginning of the course. Lecture notes will be provided. Each student will be a member of a Cisco class and will have access to a simulation environment and extensive online curricula. Certificates can be issued for successful participation in Cisco final exams.
12	Language: German







	Literature will be announced at the beginning of the course.
12	Language: German



		1169 Metrology; 1195 Physics 1; 1200 Physics 2;
6	Forms of assessment: Oral examination; in each case with preliminary examination	
7	Prerequisite for the award of credit points: Module examination pass with preliminary examination	
8	Application of the module (in the following study programmes) Electrical Engineering B.Eng. and Engineering Computer Sciences B.Eng.	
9	Importance of the grade for the final grade: according to BRPO	
10	Module Coordinator: Prof. Dr. rer. nat. Sonja Schöning	
11	Other information: Literature will be announced at the beginning of the course. Students must have sufficient knowledge and experience in the use and safety of electrical equipment	
12	Language: German	





	Written examination, combination examination, performance examination or oral examination
7	Prerequisite for the award of credit points: Module examination pass
8	Application of the module (in the following study programmes) Engineering Computer Sciences B.Eng., Renewable Energies B.Eng. and Industrial Engineering B.Sc.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Economist Ulrike Franke
11	Other information: Literature will be announced at the beginning of the course. Renewable Energies study programme: Possible elective subject
12	Language: German



12	Language: German
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12	<div>Language:</div> <div>German</div>
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11	Other information: Literature will be announced at the beginning of the course.
12	Language: German





	Content:	<ul style="list-style-type: none"> <li>• Basic computer science and programming knowledge</li> <li>• Basic knowledge of digital technology</li> </ul> Modules: 1045 Digital Electronics II; 1070 Digital Electronics I; 1105 Computer Science 1;
6	Forms of assessment:	Written examination or oral examination
7	Prerequisite for the award of credit points:	Module examination pass
8	Application of the module (in the following study programmes)	Electrical Engineering B.Eng., Engineering Computer Sciences B.Eng. and Mechatronics B.Sc.
9	Importance of the grade for the final grade:	according to BRPO
10	Module Coordinator:	Prof. Dr.-Ing. Wolfram Schenck
11	Other information:	Literature will be announced at the beginning of the course.
12	Language:	German



6	Forms of assessment: Written or oral examination; in each case with preliminary examination performance
7	Prerequisite for the award of credit points: Module examination pass with preliminary examination
8	Application of the module (in the following study programmes) Engineering Computer Sciences B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr.-Ing. Martin Kohlhase
11	Other information: Literature will be announced at the beginning of the course. Notes in the course
12	Language: German



	Literature and other sources will be announced at the beginning of the course.
12	Language: German



12	Language: German
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	according to BRPO
10	Module Coordinator: Prof. Dr.-Ing. Rüdiger Schultheis
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German



	Lecture, seminar-based teaching with exercises, practical course	
5	Participation requirements:	
	Formal:	None
	Content:	Modules: 1233 Feedback Control Engineering;
6	Forms of assessment: Written or oral examination; in each case with preliminary examination performance	
7	Prerequisite for the award of credit points: Module examination pass with preliminary examination	
8	Application of the module (in the following study programmes) Electrical Engineering B.Eng., Engineering Computer Sciences B.Eng. and Mechatronics B.Sc.	
9	Importance of the grade for the final grade: according to BRPO	
10	Module Coordinator: Prof. Dr.-Ing. Martin Kohlhasse	
11	Other information: Literature will be announced at the beginning of the course.	
12	Language: German	



	Written exam, project work or oral exam
7	Prerequisite for the award of credit points: Module examination pass
8	Application of the module (in the following study programmes) Digital Technologies (work-integrated) B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: N. N.
11	Other information:
12	Language: German







12	Language: German
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11	<p>Other information:</p> <p>Faculty tutoring is provided in each case by an examiner from the study programme, whom the student can select himself or herself according to the topic. All lecturers in the programme should each provide several topics in time for the winter semester.</p> <p>If, at the proposal of the examiner, the course work is carried out as a joint project by several students, the examiner is responsible for ensuring that a clearly defined, significant and assessable share of the work is determined in advance for each student in the group.</p> <p>In a discussion with the examiner, the expected scope and form of the work is determined at the beginning of the student research phase.</p>
12	<p>Language:</p> <p>German</p>



9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: Prof. Dr. rer. nat. Axel Schneider
11	Other information: Literature will be announced at the beginning of the course.
12	Language: German



7	Prerequisite for the award of credit points: 70% attendance and active participation; passed semester project and written exam
8	Application of the module (in the following study programmes) Electrical Engineering B.Eng., Engineering Computer Sciences B.Eng. and Renewable Energies B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: OSTR Cornelia Biegler-König
11	Other information: Literature will be announced at the beginning of the course. Textbook, additional materials, intranet self-study courses
12	Language: English





	70% attendance and active participation, passed semester project and written exam
8	Application of the module (in the following study programmes) Electrical Engineering B.Eng., Engineering Computer Sciences B.Eng. and Renewable Energies B.Eng.
9	Importance of the grade for the final grade: according to BRPO
10	Module Coordinator: OStR Cornelia Biegler-König
11	Other information: Literature will be announced at the beginning of the course. Textbook, course supplementary materials, self-study courses Study programmes in Electrical Engineering, Engineering Computer Sciences, Renewable Energies: Elective subject
12	Language: English



11	Other information: Literature will be announced at the beginning of the course.
12	Language: German

Elective Module							WM	
Identification number: 9001	Workload: 150 h	Credits: 5	Study semester: 4th/5th/6th sem.		Frequency of the offer each semester		Duration: 1 semester	
1	Course:	Planned group sizes	Scope		Actual contact time / classroom teaching		Self-study	
	Lecture	60 students		SCH		h		h
	Tuition in seminars	30 students		SCH		h		h
	Exercise	20 students	0	SCH	0	h	0	h
	Practical or seminar	15 students	0	SCH	0	h	0	h
	Supervised self-study	60 students		SCH		h		h
2	Learning outcomes/competences:							
3	Contents:							
4	Forms of teaching:							
5	Participation requirements:							
	Formal:							
	Content:							
6	Forms of assessment:							
7	Prerequisite for the award of credit points:							
8	Application of the module (in the following study programmes) Engineering Computer Sciences B.Eng.							
9	Importance of the grade for the final grade:							
10	Module Coordinator: Prof. Dr.-Ing. Lutz Grünwoldt							
11	Other information:							
12	Language: German							