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Faculty:	Architecture			
Title	**Type of course**	**Lecture hours per week**	**ECTS credits**	**Language of instruction**
L_w15: M1 Forms of Homeland EM	Seminar (S)	2	3	German (English on demand)
L_w15: M1 to form Homeland (15P)	Practical course (Ü)	see applicable study regulations	see applicable study regulations	German (English on demand)
L_w15_research area Shared Knowledge Resources	Seminar (S)	1	3	English/German
P_w15: M1 Forms of Homeland	Colloquium (K)	6	15	German (English on demand)
P_w15: M1 Forms of Homeland EM	Seminar (S)	2	3	German (English on demand)

Faculty:	Arts and Humanities			
Title	**Type of course**	**Lecture hours per week**	**ECTS credits**	**Language of instruction**
Corpus Linguistics	Lecture (V)	2		English
Creating Learning Environments and Development of Teaching Materials for Content and Language Integrated Learning	Seminar (S)	2	see applicable study regulations	English
Hauptseminar (A): Language change	Seminar (HS)	2	see applicable study regulations	English
Hauptseminar (B): Translation Studies	Seminar (HS)	2	see applicable study regulations	English
Hauptseminar (C): Formulaic language and its role in language acquisition	Seminar (HS)	2	see applicable study regulations	English
Hauptseminar A: Cognitive Poetics and its Tools for Understanding Contemporary Novels	Seminar (HS)	2	see applicable study regulations	English
Hauptseminar B: Three Prototypical English Novels: Defoe, Robinson Crusoe; Austen, Sense and Sensibility; E. Bronte, Wuthering Heights	Seminar (HS)	2	see applicable study regulations	English
Hauptseminar C: Europe and America: Cather, James, Brecht, Kafka, Pound	Seminar (HS)	2	see applicable study regulations	English

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Hauptseminar D: Europe and America: Cather, James, Brecht, Kafka, Pound	Seminar (HS)	2	see applicable study regulations	English
Hauptseminar:	Seminar (HS)	2	see applicable study regulations	English
Hauptseminar: Cohesion and Coherence	Seminar (HS)	2	see applicable study regulations	English
Introduction to Cultural Studies	Lecture (V)	2	see applicable study regulations	English
Introduction to English Linguistics I	Lecture (V)	2	see applicable study regulations	English
Kolloquium B: Literature, Cognition, Culture - New Developments in Literary and Cultural Theory Theory	Research colloquium (FK)	2	see applicable study regulations	English and German
Lecture Course: American Literature and Culture: A Survey	Lecture (V)	2	see applicable study regulations	English
Linguistic Analysis	Exam colloquium (EK)	2	see applicable study regulations	English and German
Literary Theory: A Survey for Advanced Students	Lecture (V)	2	2	English
Master-Kolloquium: Kolloquium zu aktuellen Forschungsthemen der englischen Sprachwissenschaft	Colloquium (K)	see applicable study regulations	see applicable study regulations	English
Übung: Poetry Analysis (für StaatsexamenskandidatInnen)	Practical course (Ü)	2	see applicable study regulations	English
Vorlesung: Theories of Language Acquisition	Lecture (V)	2	see applicable study regulations	English
Zusatzqualifikation "Bilinguales Lernen": English for Specific Purposes	Practical course (Ü)	2	see applicable study regulations	English
Zusatzqualifikation "Bilinguales Lernen": Principles of Content and Language Integrated Learning	Seminar (S)	2	see applicable study regulations	English

Faculty:	Business and Economics			
Title	Type of course	Lecture hours per week	ECTS credits	Language of instruction
Advanced Anaytics	Lecture/practical course/seminar (VPS)	4	see applicable study regulations	English/German
Advanced Anaytics	Practical course (Ü)	2	see applicable study regulations	English/German
Applied Economic Modeling	Lecture (V)	2	6	English
Applied Economic Modeling	Practical course (Ü)	2	see applicable study regulations	English
Coaching "Corporate Governance"	Working group (AG)	1	see applicable study regulations	English or German
Colloquium Development of IT Standards	Colloquium (K)	see applicable study regulations	see applicable study regulations	English
Colloquium Management of Enterprise Resource Planning and Interorganizational Information Systems	Colloquium (K)	see applicable study regulations	6 (V2/Ü2/K1)	English
Consumer Behavior	Lecture/practical course (VÜ)	4	5	English
Consumer-Centric New Product Development I: Generating a Branded Product	Lecture (V)	2	see applicable study regulations	English and German
Development of IT Standards	Lecture (V)	2	5 (V2/Ü1) or 6 (V2/Ü1/K1)	English
Foundations of Entrepreneurship	Lecture (V)	2	5 (incl. practical course)	English
Foundations of Entrepreneurship (Exercise)	Practical course (Ü)	2	5 (incl. lecture)	English
Innovation Research Seminar	Seminar (S)	2	5	German and/or English
Interactive Value Creation	Lecture (V)	2	5	English
Lecture "Corporate Governance"	Lecture (V)	3	5	English
Management of Enterprise Resource Planning and Interorganizational Information Systems	Lecture (V)	2	5 (V2/Ü2) or 6 (V2/Ü2/K1)	English
MME Entrepreneurial Strategy	Lecture (V)	2	5 (incl. practical course)	English
MME Entrepreneurial Strategy (Tutorial)	Practical course (Ü)	2	5 (incl. lecture)	English

Principles of Technology and Innovation Management	Lecture (V)	2	5	English
Principles of Technology and Innovation Management (PT1)	see applicable study regulations	see applicable study regulations	see applicable study regulations	English
Programming, Algorithms, Data Structures	Practical course (Ü)	4	see applicable study regulations	German or English
Project module : introduction to qualitative data analysis using the example of the magazine industry	see applicable study regulations	see applicable study regulations	10	English/German
Prüfung "Innovation Research Seminar"	Exam colloquium (EK)	see applicable study regulations	see applicable study regulations	English and German
Scheduling I	Lecture (V)	4	5	German or English
Scheduling I/II	Practical course (Ü)	4	see applicable study regulations	German or English
Service Design & Engineering	Lecture/practical course (VÜ)	4	5	English
Strategic Technology Management	Lecture/practical course (VÜ)	4	5	English
Success factors and practices of managing innovation and technology	Lecture (V)	4	5	English and German
Tutorial Development of IT Standards	Practical course (Ü)	1	5 (V2/Ü1) or 6 (V2/Ü1/K1)	English
Tutorial Management of Enterprise Resource Planning and Interorganizational Information Systems	Practical course (Ü)	2	5 (V2/Ü2) or 6 (V2/Ü2/K1)	English
Tutorial Management of Enterprise Resource Planning and Interorganizational Information Systems (Group 1)	Practical course (Ü)	2	5 (V2/Ü2) or 6 (V2/Ü2/K1)	English
Tutorial Management of Enterprise Resource Planning and Interorganizational Information Systems (Group 2)	Practical course (Ü)	2	5 (V2/Ü2) or 6 (V2/Ü2/K1)	English

Faculty:	Civil Engineering			
Title	Type of course	Lecture hours per week	ECTS credits	Language of instruction
Advanced Structural Analysis	Lecture (V)	2	see applicable study regulations	English/German
Advanced Structural Analysis	Practical course (Ü)	1	see applicable study regulations	English/German
Diversity and Innovation	Lecture (V)	2	3	English/German
Environmental Sustainability in Transport Engineering	Lecture/practical course (VÜ)	4	6	English
Geo Information Systems in Water	see applicable study regulations	see applicable study	4	English by
Hydromechanics 3	see applicable study regulations	see applicable study	4	English
Introduction to Scientific Computing II	Lecture/practical course (VÜ)	2	3	English
Matrix and Tensor Calculus	see applicable study regulations	see applicable study regulations	5	English by arrangement
Mechanics of Materials	see applicable study regulations	see applicable study regulations	8	English by arrangement
Numerical Methods	Lecture/practical course (VÜ)	2	3	English
Sanitary Engineering in Developing Countries	see applicable study regulations	see applicable study regulations	2	English
Sediment transport and morphodynamics	see applicable study regulations	see applicable study regulations	4	English
Skills for Social and Sustainable Technology Design	Seminar (S)	2	3	English/German
Structural Dynamics	see applicable study regulations	see applicable study regulations	8	English

Faculty:	Electrical Engineering and Information Technology			
Title	Type of course	Lecture hours per week	ECTS credits	Language of instruction
Acoustic Virtual Reality (AVR)	Lecture/practical course (VÜ)	3	4	English
Advanced Control Systems	Lecture (V)	2	see applicable study regulations	English
Advanced Control Systems	Practical course (Ü)	1	see applicable study regulations	English
Advanced Methods of Cryptography	Lecture (V)	2	see applicable study regulations	English
Antenna Engineering (Master Course Communications Engineering)	Lecture (V)	2	4	English
Antenna Engineering (Master Course Communications Engineering)	Practical course (Ü)	1	see applicable study regulations	English
Battery Storage Systems	Lecture/practical course (VÜ)	3	see applicable study regulations	English
Biomedical Sensors and Microsystems: Exercise	Practical course (Ü)	1	2	english
Biomedical Sensors and Microsystems: Lecture	Lecture (V)	2	2	english
CAD Lab course: Simulation of semiconductor devices	Practical course (P)	4	4	English
Communication Protocols	Lecture/practical course (VÜ)	V2Ü1	see applicable study regulations	English
Communications Engineering Laboratory	Practical course (P)	3	3	English and German
Consultation-Hour Fundamentals of Integrated Power Electronics and Power Management	Q&A Session (F)	see applicable study regulations	see applicable study regulations	english
Consultation-hour RF Systems	Q&A Session (F)	see applicable study regulations	see applicable study regulations	English or German by arrangement
Current Topics of Compound Semiconductor Technology and Devices	Seminar (S)	4	4	English/German
Electrical Drives	Lecture/practical course (VÜ)	3	see applicable study regulations	English
Electrical Machines 1	Lecture (V)	2	see applicable study regulations	English

Electrical Machines 1	Practical course (Ü)	1	see applicable study regulations	English
Electronic and Optical Measurement Technologies	Practical course (Ü)	1	see applicable study regulations	English
Electrothermal Process Technology - Basics, Materials, High Power Applications	Lecture/practical course (VÜ)	3	see applicable study regulations	English or German
Estimation and Detection Theory	Practical course (Ü)	1	see applicable study regulations	English
Exercises High Voltage Engineering - Test Systems and Diagnosis	Practical course (Ü)	1	see applicable study regulations	English
Exploring Modular Design of SDR Transceivers	Lecture/practical course (VÜ)	V2Ü1	see applicable study regulations	English
Fundamentals of Integrated Power Electronics and Power Management	Lecture (V)	2	see applicable study regulations	English
Fundamentals of Integrated Power Electronics and Power Management	Practical course (Ü)	1	see applicable study regulations	English
High Voltage Lab Course - English	Practical course (P)	4	4	English
Information Theory and Source Coding	Lecture (V)	2	see applicable study regulations	English
Information Theory and Source Coding	Practical course (Ü)	1	see applicable study regulations	English
International Patent Law	Lecture/practical course (VÜ)	3	4	English
Internship Seminar	Seminar (S)	2	see applicable study regulations	English and German
Lab Course: Power Electronic Devices	Practical course (P)	4	see applicable study regulations	German or English by arrangement
Laboratory: Network Programming	Practical course (P)	4	see applicable study regulations	English
Laboratory: SMEAGOL - Small Embedded Advanced and GEneric Objects Laboratory	Practical course (P)	4	see applicable study regulations	English
Lecture Master course: High Voltage Engineering - Test Systems and Diagnosis	Lecture (V)	2	5	English
Measurement Techniques and Distributed Intelligence for Power Systems	Lecture/practical course (VÜ)	see applicable study regulations	see applicable study regulations	English
Medical Acoustics I	Lecture/practical course (VÜ)	3	4 (incl. practical course)	English/German

Mobile Radio Networks 1	Lecture/practical course (VÜ)	see applicable study regulations	see applicable study regulations	English
Modeling and Simulation of Complex Power Systems	Lecture/practical course (VÜ)	see applicable study regulations	4	English
Multimedia Communication Systems 1	Lecture (V)	see applicable study regulations	see applicable study regulations	English
Multimedia Communication Systems 1	Practical course (Ü)	1	see applicable study regulations	English
Nanoelectronics Devices	Lecture/practical course (VÜ)	3	4	German (English on demand)
Operation of Interconnected Power Systems	Practical course (Ü)	1	1	English
Optical Telecommunications I: Devices	Lecture/practical course (VÜ)	4	4	English
Optimization in Engineering	Lecture (V)	2	4,5	English
Optimization in Engineering	Practical course (Ü)	1	see applicable study regulations	English
Oxide thin films for information technology: materials and properties	Lecture (V)	2	see applicable study regulations	German (English on demand)
Oxide thin films for information technology: materials and properties	Practical course (ÜP)	1	see applicable study regulations	German (English on demand)
Power Cable Engineering	Lecture (V)	2	4	English (German if required)
Power Cable Engineering	Practical course (Ü)	1	see applicable study regulations	English (German if required)
Power Electronic Devices	Lecture/practical course (VÜ)	3	see applicable study regulations	English
Power Electronics - Fundamentals, Topologies and Analysis	Lecture/practical course (VÜ)	3	see applicable study regulations	English
Power Systems Dynamics	Lecture/practical course (VÜ)	see applicable study regulations	4	English
Project "Communications Engineering and Multimedia"	Practical course (ÜP)	4	4	English/German
Project: "Algorithms and Practice in Signal Processing"	Practical course (Ü)	4	4	English/German
Project: "Microsystem technology in practice"	Seminar (S)	2	2	English/German
Project: "Production processes in microsystem technology"	Seminar (S)	4	4	English/German

Project: "Sensor technology in practice"	Practical course (ÜP)	4	4	English/German
Project: Current Topics of Compound Semiconductor Technology and Devices	Practical course (ÜP)	4	4	English/German
Project: Organic Electronics and Optoelectronics	Practical course (ÜP)	4	4	English/German
Project: Planning of Long-term Optimal Medium Voltage Networks	Practical course (Ü)	4	4	English and German
Project: Please seek our Homepage www.isea.rwth-aachen.de for detailed informations !	Practical course (P)	4	see applicable study regulations	English/German
Radar Labratory	Practical course (P)	4	4	English/German
RF Systems	Lecture (V)	2	see applicable study regulations	Englsih
RF Systems	Practical course (Ü)	1	see applicable study regulations	Englsih
Satellite Navigation	Lecture/practical course (VÜ)	3	4	English/German
Schutzmaßnahmen und Schutzeinrichtungen in elektrischen Netzen und Anlagen	Lecture (V)	2	4	English
Schutzmaßnahmen und Schutzeinrichtungen in elektrischen Netzen und Anlagen	Practical course (Ü)	1	see applicable study regulations	English
Seminar "Batteries, Storage Systems, Fuel Cells and Power Generators" - Focus: Energy Storage Systems	Seminar (S)	see applicable study regulations	see applicable study regulations	English
Seminar "The Future of Energy Supply"	Seminar (S)	4	see applicable study regulations	German or English
Seminar Communication Theory	Seminar (S)	see applicable study regulations	see applicable study regulations	English and German
Seminar Mixed Signal Circuits	Seminar (S)	4	see applicable study regulations	English
Seminar on Communications Engineering	Seminar (S)	3	see applicable study regulations	English
Seminar on Medical Acoustics	Seminar (S)	see applicable study regulations	see applicable study regulations	English
Seminar on Technical Acoustics	Seminar (S)	see applicable study regulations	see applicable study regulations	English/German

Seminar: Current Trends in Wireless Communications	Seminar (S)	3	see applicable study regulations	English
Seminar: Selected Topics in Communications Engineering (de/en)	Seminar (S)	see applicable study regulations	see applicable study regulations	English/German
Seminar: Wireless Internet Systems	Seminar (S)	4	see applicable study regulations	English
Signal Processing for Radar and Imaging Radar	Lecture (V)	2	4 incl. practical course)	English
Signals, Systems and Communication	Lecture (V)	2	2	English
Signals, Systems and Communication	Practical course (Ü)	1	1	English
Stochastic Networks - Analysis and Evaluation Supported by Modern Simulation Tools	Practical course (P)	4	4	English
Video Coding: Algorithms and Specification	Lecture/practical course (VÜ)	3	4	English

Faculty:	Georesources and Materials Engineering			
Title	**Type of course**	**Lecture hours per week**	**ECTS credits**	**Language of instruction**
Advanced seminar	Seminar (S)	2		English
Characterization of aqueous interfaces in Mineralogy	Practical course (Ü)	4	8	English/German
Colloquium for Mining Engineers (current R&D results, selected topics on excavation + mining equipment)	Lecture/Colloquium (VK)	3	see applicable study regulations	English/German
Comprehensive Physical Metallurgy Lab	Practical course (ÜP)	see applicable study regulations	see applicable study regulations	English
Computational Materials Science	Lecture/practical course (VÜ)	3	5	English
Computer Simulation of Materials	Lecture/practical course (VÜ)	4	5	English
Crystal physics II: Phenomena	Lecture/practical course (VÜ)	2	2,5	English/German
Crystallography of Mineral Materials	Lecture/practical course (VÜ)	2	see applicable study regulations	English
Data analyses in geosciences	Lecture/practical course (VÜ)	V1Ü1	see applicable study regulations	English
Engineering Geophysics	Lecture/practical course/seminar (VPS)	2	3	English
Environmental Issues in Mining	Lecture/practical course (VÜ)	2	3	English/German
Excursions	Practical course (Ü)	8	see applicable study regulations	English/German

Field trips to mines and mining equipment manufactures	Excursion (E)	1	see applicable study regulations	English/German
Fundamentals and Solving Methods in Metal Forming // Metal Forming Technology	Lecture (V)	2	see applicable study regulations	English
Geophysical Logging and Log Interpretation	Lecture (V)	2	see applicable study regulations	English
Geophysical Logging and Log Interpretation	Practical course (ÜP)	2	see applicable study regulations	English
Geophysics Special Methods: NMR	Lecture/practical course/seminar (VPS)	2	3	English
Geophysics Special Methods: SIP	Lecture/practical course/seminar (VPS)	2	3	English
Geothermics	Lecture/practical course (VÜ)	2	see applicable study regulations	English
Geothermics - Practicals and Exercises	Practical course (ÜP)	2	see applicable study regulations	English
Guidance to self-dependent scientific studies	Exam colloquium (EK)	4	see applicable study regulations	English/German
Guidance to self-dependent scientific studies (Master thesis)	Practical course (Ü)	8	see applicable study regulations	English/German
Hydrogeophysics	Lecture/Colloquium (VK)	2	3	English
Industrial Furnaces (Process Technology of Metals)	Lecture/practical course (VÜ)	4	see applicable study regulations	English
Introduction to Texture Analysis - Lecture/Exercise	Lecture/practical course (VÜ)	V2Ü1	see applicable study regulations	English
Lecture: Inorganic Environmental Geochemistry	Lecture (V)	2	2	English
Materials Science of Steel - Steel Design	Lecture (V)	2	see applicable study regulations	English
Micro and Macro Simulation of Casting Processes	see applicable study regulations	V1Ü1	3	English
Mineral Exploration	Lecture/practical course/seminar (VPS)	2	see applicable study regulations	English
Mineral materials: Glass	Lecture/practical course (VÜ)	2	see applicable study regulations	English
Mining Waste, Emissions and Environment	Lecture/practical course (VÜ)	3	4	English
Natural gas and isotope geochemistry	Lecture/practical course (VÜ)	2	see applicable study regulations	English/German

Petroleum Geochemistry	Lecture/practical course (VÜ)	2	see applicable study regulations	English/German
Petrophysics	Lecture (V)	2	6	English
Petrophysics	Practical course (ÜP)	2 aus QVM	6	English
Physical Metallurgy - Exercise	Practical course (Ü)	2	see applicable study regulations	English
Physical Metallurgy - Lecture	Lecture (V)	4	see applicable study regulations	English
Physical Metallurgy Laboratory	Practical course (ÜP)	Ü1P5	see applicable study regulations	English
Portfolio Management	Lecture/practical course (VÜ)	2	see applicable study regulations	English
Practical Course: Petroleum Geochemistry	Practical course (P)	2	see applicable study regulations	English/German
Process Metallurgy and Recycling (Basic course M.Sc.)	Lecture (V)	2	see applicable study regulations	English
Process Metallurgy and Recycling (Basic course M.Sc.) Exercise	Practical course (Ü)	1	see applicable study regulations	English
Prospect evaluation and Risk analysis	Lecture/practical course (VÜ)	2	see applicable study regulations	English
Refinement and Trade of Fossil Fuels	Lecture/practical course (VÜ)	2	see applicable study regulations	German (English on demand)
Remote Sensing of sedimentary basins	Lecture/practical course (VÜ)	2	3	English
Seminar II	Practical course (Ü)	1	see applicable study regulations	English/German
Seminar Inorganic Environmental Geochemistry	Seminar (S)	2	3	English
Transport Phenomena I	Lecture/practical course (VÜ)	3	see applicable study regulations	English
Well Log Analysis in Exploration - Group B	Lecture/practical course (VÜ)	2	see applicable study regulations	English

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Faculty:	Mathematics, Computer Science and Natural Science			
Title	Type of course	Lecture hours per week	ECTS credits	Language of instruction
3D Printing	Practical course (P)	4	see applicable study regulations	English/German
Actual Topics of Molecular Biology of the Neural System	Seminar (S)	1	see applicable study regulations	German or English by arrangement
Advanced Internet Technology	Lecture (V)	3	6 (together with exercises)	English
Advanced Internet Technology: Exercise	Practical course (Ü)	1	6 (together with Lecture)	English
Advanced Machine Learning	Lecture (V)	3+1	6	English
Advanced Topics in Algorithmics: Approximation Algorithms for Hard Optimization Problems	Lecture/practical course (VÜ)	V4/Ü2	8	English
Advanced Topics in Natural Language Processing	Lecture (V)	2	2,5	English
Advanced Topics in Natural Language Processing	Practical course (Ü)	1	1,5	English
Advanced Web Technologies (WebTech 2)	Lecture/practical course/seminar (VPS)	3+2	6	English
Algorithms for Data Compression and Resilient Internet Transmission	Practical course (P)	P5	10	English
Applied Quantum Mechanics	Lecture/practical course (VÜ)	3+3	6	English
Applied Software Engineering within the life cycle of Automotive Electronics	Lecture (V)	V1Ü1	see applicable study regulations	English
Astronomy and Astrophysics	Lecture/practical course (VÜ)	6	see applicable study regulations	English
Automatic Speech Recognition	Lecture (V)	see applicable study regulations	see applicable study regulations	English
Automatic Speech Recognition	Practical course (Ü)	2	see applicable study regulations	English
Basic Techniques in Computer Graphics	Lecture (V)	3	6	English/German
Basics for imaging electronic systems	Lecture (V)	2	see applicable study regulations	english
Biological information processing(Neurobiology)	Lecture (V)	2	see applicable study regulations	English

Bridging Course in Foundations of Informatics	Lecture/practical course (VÜ)	2	see applicable study regulations	English
CES Seminar: Presentation	Seminar (S)	2	5	German (English on demand)
Chemistry/Biochemistry: Lecture	Lecture (V)	2	2	English
Collecting, Analyzing and Visualizing Distributed Learner Data - project lab	Practical course (P)	see applicable study regulations	see applicable study regulations	English
Colloquium "Life Science"	Colloquium (K)	1	see applicable study regulations	English/German
Communication Systems Engineering	Lecture/practical course (VÜ)	V3/Ü1	6	English
Communication Systems Lab	Practical course (P)	4	7	English
Computational Complexity	Seminar (S)	2	4	English
Computational Differentiation	Lecture/practical course (VÜ)	4	6	English
Computer Networks, Mobile Communication and Network Security	Practical course (P)	P5	10	English
Computer Vision	Lecture/practical course (VÜ)	3+1	6	German or English
Concurrency Theory	Lecture (V)	3	6	English
Concurrency Theory	Practical course (Ü)	2	see applicable study regulations	English
Condensed Matter Physics I	Lecture/practical course (VÜ)	6	see applicable study regulations	English
Consultancy in statistical data analysis for undergraduates, graduates and postdocs (privatissime)	Practical course (Ü)	1	see applicable study regulations	English/German
Content-based Multimedia Search	Lecture/practical course (VÜ)	3+2	6	English
Critical evaluation of scientific literature in the field of applied microbiology	Seminar (S)	2	3	English
Cryptography	Lecture/practical course (VÜ)	see applicable study regulations	see applicable study regulations	English
CSCW and groupware: concepts and systems for computer supported cooperative work	Lecture/practical course (VÜ)	V2/Ü1	4	English
CSCW Experience Lab: Industry 4.0 like production line setup	Practical course (P)	see applicable study regulations	10	English
Current Topics in Cellular and Developmental Biology	Seminar (S)	2	3	English

Current Trends in Release Engineering	Seminar (S)	see applicable study regulations	see applicable study regulations	English
Data Analysis and Visualization	Lecture (V)	2	4	English
Data Analysis and Visualization	Practical course (Ü)	1	see applicable study regulations	English
Data Communication and Internet Technolog	Lecture/practical course (VÜ)	V3/Ü2	6	English
Data Mining Algorithms I	Lecture/practical course (VÜ)	3+2	6	English
Density Functional Theory and Electronic structure	Lecture/practical course (VÜ)	6	see applicable study regulations	English
Designing Interactive Systems I	Lecture/practical course (VÜ)	V3/Ü2	6	English
Designing Interactive Systems I (in Bonn)	Lecture/practical course (VÜ)	V3/Ü2	6	English
eBusiness - Applications, architecture and standards	Lecture/practical course (VÜ)	2+1	4	English
EUV and X-Ray Optics	Lecture/practical course (VÜ)	4	5	English
Exercises String Processing Algorithms and Data Compression Techniques	Practical course (Ü)	2	see applicable study regulations	German or English
Finite Volume and Finite Element Schemes II	Lecture (V)	2	3	German or English
Finite Volume and Finite Element Schemes II	Practical course (Ü)	1	1	German or English
Foundations of Data Science	Lecture (V)	3	6	English
From Molecular to Continuum Physics I	Lecture/practical course (VÜ)	see applicable study regulations	see applicable study regulations	English
Full-scale Software Engineering	Seminar (S)	see applicable study regulations	see applicable study regulations	English
Fundamentals and applications of bioelectrochemical systems	Lecture (V)	2	3	English
Generative Aspects of Software Development in the Automotive Domain	Lecture (V)	V2	see applicable study regulations	English
Group meeting	Seminar (S)	2	see applicable study regulations	English and German
Implementation of Databases	Lecture/practical course (VÜ)	V3/Ü1	6	English
Infinite Computations	Lecture (V)	3	6	English
Infinite Computations	Practical course (Ü)	2	see applicable study regulations	English
Internet Algorithms	Seminar (S)	S2	4	English
Introduction to Accelerator Physics	Lecture/practical course (VÜ)	3	5	English

Introduction to Artificial Intelligence	Lecture/practical course (VÜ)	V3Ü2	6	English
Introduction to Bioinformatics	Lecture (V)	2	4 (incl exercises)	English
Introduction to Computational Neuroscience (Exercise)	Practical course (Ü)	2	3	English
Introduction to Computational Neuroscience (Lecture)	Lecture (V)	1	2	English
Introduction to Computer Graphics	Lecture/practical course (VÜ)	V4/Ü2	8	English
Introduction to hyperbolic conservation laws	Lecture (V)	2	3	English or German
Introduction to hyperbolic conservation laws	Practical course (Ü)	2	3	English or German
Introduction to Languages for Scientific Computing	Lecture/practical course (VÜ)	see applicable study regulations	6	English
Introduction to Statistical Classification	Lecture (V)	see applicable study regulations	see applicable study regulations	English
Introduction to Statistical Classification	Practical course (Ü)	2	see applicable study regulations	English
iPhone Application Programming	Lecture/practical course (VÜ)	V3Ü2	6	English
IT-Security 1 - Network Security	Lecture/practical course (VÜ)	see applicable study regulations	6	English
Lab Course "Distributed Task Planning for a Group of Mobile Robots"	Practical course (P)	4	7	english
Lab Course "Real Time Search in Microblogs"	Practical course (P)	4	7	English/German
Lab Course Automatic Speech Recognition	Practical course (P)	4	see applicable study regulations	English
Lab Course in Neurobiology/Developmental Biology	Practical course (P)	12	8	German (English on demand)
Lab course: Introduction to bioelectronic interfaces	Practical course (P)	3	4	English
Lecture Cell Biology 1	Lecture (V)	2	see applicable study regulations	English/German
Logic and Games	Lecture (V)	see applicable study regulations	see applicable study regulations	German or English
Mathematical Models in Science and Engineering (ODEs)	Lecture/practical course (VÜ)	2+1	4	German or English
Mathematics Exercise	Practical course (Ü)	2	2	English
Mathematics Lecture	Lecture (V)	2	2	English

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Mathematics Tutoring Session	Q&A Session (F)	2	see applicable study regulations	English
mechanism of molecular catalysis	Lecture (V)	2	see applicable study regulations	English
Media, Culture and Mind	Lecture/practical course (VÜ)	V2/Ü1	4	English
Medical Image Processing: Seminar	Seminar (S)	2	4	English
Modeling and Verification of Probabilistic Systems	Lecture (V)	3	6	English
Molecular Biology of the Neural System	Lecture (V)	1	see applicable study regulations	German or English by arrangement
Molecular Genetics / Gene Technology II (Regulation of gene expression)	Lecture (V)	2	see applicable study regulations	English
Molecular parasitology	Practical course (P)	see applicable study regulations	9	English/German
MSc lecture on cellular and systems neurobiology	Lecture (V)	2	3	English/German
Multimedia Analysis and Retrieval	Practical course (P)	5	10	English
Nanoferronics news	Seminar (S)	2	5	English
Nano-optics I	Lecture (V)	2V+1S	5	English
Numerical Analysis IV	Lecture (V)	4	8	German or English
Numerical Analysis IV	Lecture (V)	4	8	German or English by arrangement
Numerical Analysis IV exercises	Practical course (Ü)	2	2	German or English by arrangement
Object-Oriented Software Construction	Lecture (V)	3	6	English
Object-Oriented Software Construction	Practical course (Ü)	2	see applicable study regulations	English
Online Algorithms	Seminar (S)	2	see applicable study regulations	English
Optimization C (Optimal Control)	Lecture/practical course (VÜ)	4+2	9	German (English on demand)
Parallel Programming	Lecture (V)	V3	4	English
Parallel Programming	Practical course (Ü)	Ü2	2	English
Particle Physics I	Lecture/practical course (VÜ)	6	see applicable study regulations	English
Pattern Recognition	Lecture/practical course (VÜ)	V4/Ü2	8	English

practical course: cellular neurobiology (module ZSN1)	Practical course (P)	4	6	German or English by arrangement
Practical Genetics of Plant-Microbe-Interaction	Practical course (P)	8	9	English
Quantum Error Correction	Seminar (S)	2	5	English
Quantum Field Theory of Particle Physics I	Lecture/practical course (VÜ)	6	10	English
Quantum Optics	Lecture/practical course (VÜ)	2+1	5	English
Quantum transport	Lecture/practical course (VÜ)	V2+Ü1	5	English
Reactor modelling and process simulation	Lecture (V)	2	3	English
Regulation of protein structure , expression and function	Lecture (V)	see applicable study regulations	3	English
Research Focus Class on Communication Systems	Lecture/practical course (VÜ)	V3+Ü2	6	English
Research internship "Molecular cell biology"	Practical course (P)	see applicable study regulations	see applicable study regulations	German and/or English
Research Seminar on Logic and Automata	Working group (AG)	2	see applicable study regulations	English and German
Satisfiability Checking	Lecture/practical course (VÜ)	V3 Ü1	6	Engl15h or German
Scientific Computing for Chemical Reaction Engineering	Lecture (V)	2	see applicable study regulations	English/German
Selected Topics in Human Language Technology and Pattern Recognition	Seminar (S)	2	4	English/German
Semiconductor Physics	Lecture (V)	2	see applicable study regulations	German (English on demand)
Seminar "Recent topics in Numerical Analysis II"	Seminar (S)	2	see applicable study regulations	German or English
Seminar Advanced Topics in Cryptography	Seminar (S)	2	4	English
Seminar Algorithmic Game Theory and the Internet	Seminar (S)	2	4	English
Seminar Bacterial and Phage Genetics	Seminar (S)		see applicable study regulations	German or English
Seminar Beliefs and Causality	Seminar (S)	2	4	English
Seminar Big Data	Seminar (S)	2	4	English
Seminar Cell biology 1	Seminar (S)	2	see applicable study regulations	English and German
Seminar Computational Complexity Theory	Seminar (S)	2	4	English

Seminar on data mining and multimedia retrieval	Seminar (S)	2	5	English and German
Seminar on Environmental Sciences	Seminar (S)	2	see applicable study regulations	German or English
Seminar Scattering Methods in Condensed Matter Science	Seminar (S)	2	see applicable study regulations	English
Seminar: Advanced Internet Technology	Seminar (S)	2	4	English
Seminar: Big Data and Learning Analytics	Seminar (HS)	2	4	English
Seminar: Current Topics in High-Performance Computing (HPC)	Seminar (S)	2	4	English/German
Seminar: Mobile Internet Technology	Seminar (S)	2	4	English
Seminars in nanospintronics (Students Seminars)	Seminar (S)	2	5	English
Single Molecule Fluorescence Microscopy: Practical Labcourse	Practical course (P)	4	5	English
Single molecule techniques in life sciences - Advanced experimental methods in modern biophysics	Lecture/practical course (VÜ)	3	5	English
SiSc Laboratory	Lab course (LÜ)	3	6	English
Software Architectures	Lecture (V)	3	6	English/German
State set representation techniques for hybrid systems	Practical course (P)	4	7	English/German
String Processing Algorithms and Data Compression Techniques	Lecture (V)	3	6	German or English
Technical Writing	Seminar (S)	2	4	English
Term Rewriting Systems	Lecture (V)	3	6	German or English
Term Rewriting Systems	Practical course (Ü)	2	see applicable study regulations	German or English
The Media Computing Project (Praktikum Hauptstudium)	Practical course (P)	2	7 (10 possible for added work)	English
Theoretical Physics II (Tutorial Group 2)	Practical course (Ü)	2	see applicable study regulations	English
Theoretical Physics II (Tutorial Group 7) (Given in English)	Practical course (Ü)	2	see applicable study regulations	English
Theories beyond the Standard Model	Lecture/practical course (VÜ)	3	5	English
Theory of plant cell wall biology	Lecture (V)	2	3	English and German

Topics in ethology	Seminar (S)	2	3	German or English
Trends in Computer-Aided Verification	Seminar (S)	2	4	English/German
Tutorial Foundations of Data Science	Practical course (Ü)	2	see applicable study regulations	English
Ultrafast Lasers and X-Ray Generation	Lecture/practical course (VÜ)	4	5	English
User-Centered Technology Design	Practical course (P)	5	10	English
Variational Image Processing	Lecture/practical course (VÜ)	2+1	5	German or English
Virtual Reality	Lecture/practical course (VÜ)	3+1	6	English and German
Web Science	Lecture/practical course (VÜ)	V3/Ü1	6	English
Working Group Cognitive Robotics	Practical course (Ü)	2	see applicable study regulations	English/German
Working Group Speech Recognition	Working group (AG)	2	see applicable study regulations	English/German
Workshop "How to write a grant application" part 2	Seminar (S)	see applicable study regulations	2	German or English by arrangement

Faculty:	Mechanical Engineering			
Title	**Type of course**	**Lecture hours per week**	**ECTS credits**	**Language of instruction**
Advanced Software Engineering	Lecture (V)	2	3,5	English
Advanced Software Engineering	Practical course (Ü)	2	3	English
Applied Molecular Thermodynamics	Lecture (V)	2	4,5	English
Applied Molecular Thermodynamics	Practical course (Ü)	1	4,5	English
Automotive Engineering - Practical Course I	Lab course (LÜ)	2	3	English
Automotive Engineering I	Lecture (V)	2	3	English
Automotive Engineering I	Practical course (Ü)	2	3	English
Automotive Engineering III	Lecture (V)	2	3	English
Automotive Engineering III	Practical course (Ü)	1	1,5	English
Basics of Mechanics/Biomechanics	Lecture (V)	2	3	English
Basics of Mechanics/Biomechanics	Practical course (Ü)	2	3	English
CES Seminar: Presentation	Seminar (S)	2	5	German (English on demand)
Control Engineering Exercise	Practical course (Ü)	see applicable study regulations	see applicable study regulations	English
Control Engineering Lecture	Lecture (V)	see applicable study regulations	see applicable study regulations	English

Exercise Machine Tools	Practical course (Ü)	2	see applicable study regulations	English
Exercise Manufacturing Technology I	Practical course (Ü)	2	see applicable study regulations	English
Exercise Mechatronics and Control for Production Plants M.Sc.	Practical course (Ü)	2	5	English
Finite Elements in Fluids	Lecture (V)	2	4	English
Finite Elements in Fluids Exercise	Practical course (Ü)	1	1	English
Fluid Dynamics	Lecture (V)	2	3	English
Fluid Dynamics	Practical course (Ü)	2	3	English
Foundations of Finite Element Methods for Engineers	Lecture (V)	2	5	English
Foundations of Finite Element Methods for Engineers	Practical course (Ü)	2	5	English
Fundamentals of Fluid Power	Lecture (V)	2	3	English
Fundamentals of Fluid Power	Practical course (Ü)	2	3	English
Fundamentals of Lightweight Design	Lecture (V)	2	3	English
Fundamentals of Lightweight Design	Practical course (Ü)	1	1,5	English
Gear and Transmission Technology	Lecture (V)	2	3	English
Gear and Transmission Technology	Practical course (Ü)	2	2	English
Heat and Mass Transfer (in Englisch)	Practical course (Ü)	2	see applicable study regulations	English
Image Guided Therapy / Molecular Imaging Lecture	Lecture (V)	2	3	English
Image Guided Therapy I	Lecture/practical course (VÜ)	2	see applicable study regulations	English
Industrial Engineering and Ergonomics	Lecture/practical course (VÜ)	see applicable study regulations	see applicable study regulations	English
Industrial Engineering and Ergonomics, Participants International Academy	Lecture/practical course (VÜ)	see applicable study regulations	see applicable study regulations	English
Industrial Engineering and Ergonomics, Participants Master students RWTH Aachen University	Lecture/practical course (VÜ)	see applicable study regulations	see applicable study regulations	English
Innovation Management for Long-distance Freight Transport Technologies	Lecture (V)	2	3	English
iPodia - Principles and Practices of Global Innovation	Lecture/practical course (VÜ)	3	5	English

Isogeometric Analysis	Lecture/practical course (VÜ)	3	6	English
Lattice-Boltzmann Methods	Lecture/practical course (VÜ)	4	5	English
Lecture Machine Tools	Lecture (V)	2	5	English
Lecture Mechatronics and Control for Production Plants M.Sc.	Lecture (V)	2	5	English
Machine Design Process	Practical course (Ü)	2	see applicable study regulations	English
Machine Design Process	Lecture (V)	2	see applicable study regulations	English
Manufacturing Technology I	Lecture (V)	2	see applicable study regulations	English
Mechanics of living tissues	Lecture/practical course (VÜ)	3	5	English
Membrane Processes	Lecture (V)	2	3	English
Membrane Processes	Practical course (Ü)	2	see applicable study regulations	English
Modelling, Model Reduction and Simulation in Laser Processing II	Lecture/practical course (VÜ)	2	4	English
Numerical Methods for Fluid-Structure Interaction	Lecture/practical course (VÜ)	V2/Ü1	4	English
Numerical Methods for Partial Differential Equations	Lecture/practical course (VÜ)	4+2	8	English
Numerical Methods in Mechanical Engineering	Lecture (V)	3	see applicable study regulations	English
Numerical Methods in Mechanical Engineering	Practical course (Ü)	2	see applicable study regulations	English
Practical Applications of Computer-Aided Engineering Tools	Practical course (Ü)	1	see applicable study regulations	English
Practical Introduction to FEM-Software I	Lecture/practical course (VP)	3	3	English
Process Chains for the replication of complex optical components	Lecture (V)	2	3	English
Production Management A	Practical course (Ü)	1	3	English
Production Management A	Lecture (V)	2	3	English
Quality Management (Lecture/Exercise)	Lecture/practical course (VÜ)	see applicable study regulations	see applicable study regulations	English
Selected Aspects in Medical Engineering	Seminar (S)	2	2	German and/or English by arrangement

Selected Topics in Turbomachinery	Lecture (V)	2	3	English/German
Selected Topics in Turbomachinery	Practical course (Ü)	2	3	English/German
Selected Topics of Inelasticity Theory	Lecture (V)	2	see applicable study regulations	English
Selected Topics of Inelasticity Theory	Practical course (Ü)	2	see applicable study regulations	English
Simulation of Discrete Event Systems, Participants Master students RWTH Aachen University	Lecture/practical course (VÜ)	see applicable study regulations	see applicable study regulations	English
Simulation Sciences Seminar	Seminar (S)	see applicable study regulations	see applicable study regulations	English
Simulation Techniques in Manufacturing Technology	Lecture (V)	2	4,5	English
Simulation Techniques in Manufacturing Technology	Practical course (Ü)	1	see applicable study regulations	English
SiSc Laboratory	Lab course (LÜ)	3	6	Englsh
Systems Biology: Lecture	Lecture (V)	2	3	Englsh
Systems Biology: Practical Course	Practical course (Ü)	1	2	Englsh
Tensor Algebra and Tensor Analysis for Engineering Students I	Lecture (V)	2	5	English
Tensor Algebra and Tensor Analysis for Engineering Students I	Practical course (Ü)	2	5	English

Faculty:	Medicine			
Title	Type of course	Lecture hours per week	ECTS credits	Language of instruction
Advanced Immunology	Seminar (S)	2	3	English/German
Biochemistry and Cell Biology seminar	Practical course (Ü)	see applicable study regulations	see applicable study regulations	English/German
BME: Cell Culture and Tissue Engineering (Lecture)	Lecture (V)	2	3	English
BME: Cell Culture and Tissue Engineering (Prac Class)	Practical course (P)	1	2	English
Chemistry/Biochemistry: Lecture	Lecture (V)	2	2	English
Chemistry/Biochemistry: Practice	Practical course (P)	see applicable study regulations	see applicable study regulations	English

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Colloquium Biometry	Q&A Session (F)	see applicable study regulations	see applicable study regulations	English/German
Colloquium Medical Informatics	Research colloquium (FK)	2	2	English/German
experimental hepatology: signal transduction	Research colloquium (FK)	see applicable study regulations	see applicable study regulations	English
Hard Tissue Implants and Prostheses Lecture	Lecture (V)	1	see applicable study regulations	English
Image Guided Therapy / Molecular Imaging Lecture	Lecture (V)	2	3	English
Image Processing and Handling: Lecture	Lecture (V)	2	3	English
Image Processing and Management: Exercise	Practical course (Ü)	1	2	English
Immunology and Microbiology (2L)	Lecture (V)	1	see applicable study regulations	English
Introduction to Computational Neuroscience (Exercise)	Practical course (Ü)	2	3	English
Medical Biology Lecture	Lecture (V)	2	3	English
Medical Biology Practical course	Practical course (ÜP)	1	2	English
Medical Image Processing: Seminar	Seminar (S)	2	4	English
Medical Imaging Part I (for Natural Sc., Engineering and Medicine)	Lecture/practical course (VP)	2	4	English
Medical Statistics (Exercise)	Practical course (Ü)	1	2	English
Medical Statistics (Lecture)	Lecture (V)	1	3	English
Methods in Immunology	Seminar (S)	2	see applicable study regulations	German or English
Molecular Genetics / Gene Technology II (Regulation of gene expression)	Lecture (V)	2	see applicable study regulations	English
Neuro-psychiatric research colloquium of the IRTG 1328	Seminar (S)	2	see applicable study regulations	English
postgraduates' progress reports	Seminar (S)	see applicable study regulations	see applicable study regulations	English
Practical Course Biomaterials Research	Practical course (P)	2		English/German
Regulation of protein structure , expression and function	Lecture (V)	see applicable study regulations	3	English
Scientific course in immunology	Practical course (P)	see applicable study regulations	see applicable study regulations	German or English

Seminar of the Institute of Immunology and Journal-Club	Seminar (S)	2	see applicable study regulations	German or English
Seminar on molecular and pathophysiological mechanisms of cytokines and their receptors	Practical course (Ü)	see applicable study regulations	see applicable study regulations	English/German
Supervision for PhD-Thesis	Practical course (P)	see applicable study regulations	see applicable study regulations	German or English
Supervision of Master Thesis	Practical course (P)	see applicable study regulations	see applicable study regulations	German or English
Systems Biology: Lecture	Lecture (V)	2	3	English
Systems Biology: Practical Course	Practical course (Ü)	1	2	English

Faculty:	Other			
Title	**Type of course**	**Lecture hours per week**	**ECTS credits**	**Language of instruction**
Applied Quantum Mechanics	Lecture/practical course (VÜ)	3+3	6	English
Computational Contact Mechanics	Lecture/practical course (VÜ)	4	5	English
Computational Differentiation	Lecture/practical course (VÜ)	4	6	English
Data Analysis and Visualization	Lecture (V)	2	4	English
Data Analysis and Visualization	Practical course (Ü)	1	0	English
Finite Elements in Fluids	Lecture (V)	2	4	English
Finite Elements in Fluids Exercise	Practical course (Ü)	1	1	English
From Molecular to Continuum Physics I	Lecture/practical course (VÜ)	see applicable study regulations	see applicable study regulations	English
Innovation Management for Long-distance Freight Transport Technologies	Lecture (V)	2	3	English
Introduction to Accelerator Physics	Lecture/practical course (VÜ)	3	5	English
IT-Security 1 - Network Security	Lecture/practical course (VÜ)	see applicable study regulations	6	English
Lattice-Boltzmann Methods	Lecture/practical course (VÜ)	4	5	English
Numerical Analysis IV	Lecture (V)	4	8	German or English by arrangement
Numerical Methods for Partial Differential Equations	Lecture/practical course (VÜ)	4+2	8	English
Parallel Programming	Lecture (V)	V3	4	English
Parallel Programming	Practical course (Ü)	Ü2	2	English

Simulation Sciences Seminar	Seminar (S)	see applicable study regulations	see applicable study regulations	English
SiSc Laboratory	Lab course (LÜ)	3	6	English
Virtual Reality	Lecture/practical course (VÜ)	3+1	6	English and German