

Course Catalog

Fakultät für Informations-, Medien- und Elektrotechnik

Courses are colour-coded according to the course language

German

English

German, English if
necessary

German and English

– Level: Bachelor, Summer Semester

→ [Advanced methods and theories of Media Design \(Russi\)](#)

→ [algorithms and data structures \(Rosenthal\)](#)

→ [Audio Engineering \(Reiter\)](#)

→ [Autonomous Systems \(Yuan\)](#)

→ [Basics of Media Design 1 \(Russi\)](#)

→ [Bioenergie und regenerative Gastechnologie \(Stenzel\)](#)

→ [Communication Acoustics \(Pörschmann\)](#)

→ [Computer Graphics \(Fuhrmann\)](#)

→ [Computer Science 2 \(Fuhrmann\)](#)

→ [Control Systems of Electrical Drives \(Lohner\)](#)

→ [Data Base Systems 2 \(Behrend\)](#)

→ [Digital Communications \(Dettmar\)](#)

→ [Digital Signal Processing with FPGA \(Krah\)](#)

→ [Discrete Signals and Systems \(Elders-Boll\)](#)

→ [Display technology \(Ruelberg\)](#)

→ [Electrial Engineering Materials \(Poggemann\)](#)

→ [Electric power generation \(Evers\)](#)

→ [Mathematics 2 \(Kunz\)](#)

→ [Mathematics 2 \(Weigand\)](#)

→ [Measurement Technology \(Silverberg\)](#)

→ [Media Design Project \(Russi\)](#)

→ [Media ethics and society \(Russi\)](#)

→ [Medical Imaging \(Oberheide\)](#)

→ [Microcomputer systems \(Stockmann\)](#)

→ [Network Security and Automation \(Grebe\)](#)

→ [Operating Systems and Distributed Systems 2 \(Vogt\)](#)

→ [Operational energy management \(Stockmann\)](#)

→ [Optical Design \(Weigand\)](#)

→ [Parallel Programming and Computerarchitektur \(Thieling\)](#)

→ [Photo Technology 2 \(Fischer\)](#)

→ [Physics 1 \(Humpert\)](#)

→ [Physics 1 \(Kohlhof\)](#)

→ [Physics 1 \(Oberheide\)](#)

→ [Postproduction \(Gärtner\)](#)

→ Electrical Engineering 2 (Basics) (Kronberger).

→ Electrical Machines (Evers).

→ Electrical safety and EMC (Humpert).

→ Electronic Media 1 (Pörschmann).

→ Embedded system project (Krawutschke).

→ Energy Economics (Stadler).

→ Entwurf, Simulation und Layout von Schaltungen (Brunner).

→ Formal Languages and Automata Theory (Nissen).

→ Fundamentals in System Programming (Thieling).

→ Fundamentals of Electrical Engineering 1 (Waffenschmidt).

→ Fundamentals of Electrical Engineering 2 (May).

→ Fundamentals of Electrical Engineering 2 (Waffenschmidt).

→ Graphentheorie (Randerath).

→ High Frequency Technologies (Kronberger).

→ Holography (Altmeyer).

→ Image Processing (Kunz).

→ Image Sensor Technology (Poggemann).

→ Industrial Image Processing (Thieling).

→ Information technology for automation technology (Große).

→ Internship (BaTIN).

→ Introduction to Fieldbus Systems (Bartz).

→ IoT Protocols and Applications (Elders-Boll).

→ IT Security (Knospe).

→ Management of Projects in Information Technology (Yuan).

→ Mathematics 2 (Bold).

→ Mathematics 2 (Knospe).

→ Power Electronics (Dick).

→ Practical Informatics 2 (Rosenthal).

→ Practical Informatics 2 (Yuan).

→ Practically based Summer School (Schneider).

→ Process Control Technology Systems (Große).

→ Product Development for Smart City (Stadler).

→ Programming distributed and mobile applications (Vogt).

→ Project Camera Technology Applications (Fischer).

→ Project Image Processing / Pattern Recognition (Kunz).

→ Project Interactive Systems (Grünvogel).

→ Project Media Distribution / Display Technology (Ruelberg).

→ Project Media Production Technologies (Reiter).

→ Project-based optics (Gartz).

→ Radiation, radiometry, photometry (Gartz).

→ Sensors and evaluation of measurements (May).

→ Software engineering for automation technology (Kreiser).

→ Software Lab (Nissen).

→ Stereoscopy (Fischer).

→ Switch-Mode Power Supplies (Dick).

→ Systems on Programmable Chips (Krawutschke).

→ Technical optics (Altmeyer).

→ Technologien der augenoptischen Industrie (NN).

→ wave optics, interference, diffraction (Gartz).

→ Web Engineering 1 (Backend) (NN).

→ Web project (NN).

→ Writing scientific papers (Weigand).

– Level: Bachelor, Winter Semester

→ [Acoustics for Engineers \(Pörschmann\)](#).

→ [Analogue signals and systems \(Elders-Boll\)](#).

→ [Analogue signals and systems \(Lohner\)](#).

→ [Antenna Technology \(Kronberger\)](#).

→ [Applied Mathematics \(Rhein\)](#).

→ [Applied Statistics and Numerical Analysis \(Rhein\)](#).

→ [Basic Electrical Engineering for Computer Science and Engineering \(Thieling\)](#).

→ [Basics of Media Design 2 \(Russi\)](#).

→ [Business and Law \(Kim\)](#).

→ [Camera Technology \(Fischer\)](#).

→ [Computer Animation \(Grünvogel\)](#).

→ [Computer Generated Imagery \(Fuhrmann\)](#).

→ [Computer Science 1 \(Fuhrmann\)](#).

→ [Computer Science 3 \(Lo Iacono\)](#).

→ [Control Engineering \(Krah\)](#).

→ [Control System Technology \(Kreiser\)](#).

→ [Data Base Systems 1 \(Behrend\)](#).

→ [Data Mining \(Rhein\)](#).

→ [Data Mining \(Rhein\)](#).

→ [design and 3D-CAD \(Gartz\)](#).

→ [Development of Complex Software Systems \(Nissen\)](#).

→ [Digital Computer \(Thieling\)](#).

→ [Electrical Drives \(Dick\)](#).

→ [Electrical Engineering \(Basics\) \(Kronberger\)](#).

→ [Electrical Engineering 3 \(Kronberger\)](#).

→ [Electrical Power Distribution \(Waffenschmidt\)](#).

→ [Electronic Circuits \(Schneider\)](#).

→ [Electronic Media 2 \(Ruelberg\)](#).

→ [Light-Matter-Interaction \(Oberheide\)](#).

→ [Lighting Technology \(Weigand\)](#).

→ [Machine Learning \(Thieling\)](#).

→ [Mathematics 1 \(Bold\)](#).

→ [Mathematics 1 \(Grünvogel\)](#).

→ [Mathematics 1 \(Knospe\)](#).

→ [Mathematics 1 \(Weigand\)](#).

→ [Media Design Conception and Storytelling \(Russi\)](#).

→ [Media Distribution and Storage \(Ruelberg\)](#).

→ [Media Law \(BaMT\)](#).

→ [Medizinische Statistik und Studienplanung \(BaOPT\)](#).

→ [Networking in automation technology \(Stockmann\)](#).

→ [Neuroophthalmologie \(BaOPT\)](#).

→ [Operating Systems and Distributed Systems 1 \(Vogt\)](#).

→ [Optical metrology \(Gartz\)](#).

→ [Pathologie \(BaOPT\)](#).

→ [Pharmakologie \(BaOPT\)](#).

→ [Photo Technology 1 \(Fischer\)](#).

→ [Phototechnology 3 \(Poggemann\)](#).

→ [Physics 2 \(Humpert\)](#).

→ [Physics 2 \(Kohlhof\)](#).

→ [Physics 2 \(Oberheide\)](#).

→ [Practical Informatics 1 \(Rosenthal\)](#).

→ [Practical Informatics 1 \(Vogt\)](#).

→ [Presentation and Communication \(BaTIN\)](#).

→ [Principles of Networked IT Systems \(Elders-Boll\)](#).

→ [Process Control Engineering \(Große\)](#).

→ [Electronics \(Poggemann\)](#).

→ [Embedded Systems \(Krawutschke\)](#).

→ [Energy Storage \(Stadler\)](#).

→ [F07 Networks and Protocols \(Grebe\)](#).

→ [Fahrmechanik \(Frantzen\)](#).

→ [Film- and Postproduction \(Gärtner\)](#).

→ [First term project \(Gartz\)](#).

→ [Functional Safety \(Krah\)](#).

→ [Fundamentals of Electrical Engineering 1 \(May\)](#).

→ [Fundamentals of Electrical Engineering 3 \(Evers\)](#).

→ [Fundamentals of Electrical Engineering 3 \(May\)](#).

→ [Geo- und Solarthermie \(Lambers\)](#).

→ [Geometrical Optics \(Gartz\)](#).

→ [Graphentheorie \(Randerath\)](#).

→ [Graphical User Interfaces \(Rosenthal\)](#).

→ [High Voltage Technology \(Humpert\)](#).

→ [Industrial Computer Vision \(Thieling\)](#).

→ [Internship \(BaTIN\)](#).

→ [Kinderoptometrie \(BaOPT\)](#).

→ [Laser Physics and Technology \(Altmeyer\)](#).

→ [Light microscopy \(Altmeyer\)](#).

→ [Programming Practice \(Yuan\)](#).

→ [Programming Project \(Kreiser\)](#).

→ [Recipe Control \(Große\)](#).

→ [Self-management in studies \(Grünvogel\)](#).

→ [Signal Processing \(Bartz\)](#).

→ [Signal Theory and Applied Mathematics \(Kunz\)](#).

→ [Signalprocessing using Matlab/Python and Microprocessors \(Elders-Boll\)](#).

→ [Simulation von Energiesystemen \(Nebel\)](#).

→ [Software Engineering \(Nissen\)](#).

→ [Software Management \(Wörzberger\)](#).

→ [Solarenergie \(Blieske\)](#).

→ [Source and Channel Coding \(Dettmar\)](#).

→ [Spezielle Kontaktlinsen \(BaOPT\)](#).

→ [System Design Lab \(Wörzberger\)](#).

→ [Theory of imaging \(Altmeyer\)](#).

→ [Verteilte Datenverarbeitungssysteme \(Behrend\)](#).

→ [Video Studio Technology \(Reiter\)](#).

→ [Visual and Auditive Perception \(Kunz\)](#).

→ [Web Engineering 2 \(Frontend\) \(NN\)](#).

→ [Wind Energy \(Stadler\)](#).

→ [Wireless Communications in the IoT \(Dettmar\)](#).

→ [Writing scientific papers \(Weigand\)](#).

– Level: Master, Summer Semester

→ [Advanced Channel Coding \(Dettmar\)](#).

→ [Advanced Mathematics \(Knospe\)](#).

→ [Applied Mathematics \(Grünvogel\)](#).

→ [Basics on Systems and Networks \(Kronberger\)](#).

→ [Communication in Distributed Systems and Networks \(Jonas\)](#).

→ [InnoBioDiv - Innovative research on plant-environment interaction in a changing climate combining biology and modern Internet-of-Things technologies \(Dettmar\)](#).

→ [Intelligent Information Systems \(Behrend\)](#).

→ [Large and Cloud-based Software-Systems \(Wörzberger\)](#).

→ Computational Intelligence (Bartz)

→ Cryptography (Knospe)

→ Digital Motion Control (Krah)

→ Electric vehicle drivetrain (Lohner)

→ Electrical Power Grids for Renewable Energy (Waffenschmidt)

→ Embedded Security (Lemke-Rust)

→ Ethics (MaTIN)

→ Finite element method in electrical engineering (Evers)

→ High Voltage Transmission Technology (Humpert)

→ Human Computer Interaction (Fuhrmann)

→ Identification and Privacy Enhanced Technologies (Ullmann)

→ image processing master (Salmen)

→ Industrial property protection (Ladrière)

→ Machine Learning and Scientific Computing (Rhein)

→ Next Generation Networks (Grebe)

→ Nonlinear optics (Oberheide)

→ Optical and wireless communication systems (Uhde)

→ Optical Spectroscopy and Applications (Gartz)

→ Optoelektronik (NN)

→ Parallel Programming (Fuhrmann)

→ Project Management (Dettmar)

→ Research Project in Virtual Acoustics and Object Based Audio (Reiter)

→ Research Project Virtual and Augmented Reality (Grünvogel)

→ Research Seminar (Krah)

→ Technologies and Systems of Video Production (Reiter)

→ Theoretical Computer Science (Randerath)

→ Theoretical Electro Dynamics (Kohlhof)

→ Virtual Acoustic Environments (VAE) (Pörschmann)

– Level: Master, Winter Semester

→ Advanced Multimedia Communications (Grebe)

→ Algorithms for video signal processing (Ruelberg)

→ Alternative Computer Architectures and Programming Languages (Wörzberger)

→ Audio and Video Technologies (Ruelberg)

→ Combinatorial Optimization and Graph Algorithms (Randerath)

→ Communication in Distributed Systems and Networks (Jonas)

→ Digital Imaging (Fischer)

→ Digital Signal Processing (Elders-Boll)

→ Project management (Gartz)

→ Project Management (Dettmar)

→ Project Management for System Design Lab (Wörzberger)

→ Quantum mechanics (Oberheide)

→ Research Project in Virtual Acoustics and Object Based Audio (Reiter)

→ Research Project Virtual and Augmented Reality (Grünvogel)

→ Research Seminar (Krah)

→ RF System Design (Kronberger)

→ [Electric Railways \(Evers\)](#)

→ [Embedded Systems in Media Technology \(Poggemann\)](#)

→ [Energy Management in Interconnected Systems \(Stadler\)](#)

→ [Ethics \(MaTIN\)](#)

→ [InnoBioDiv - Innovative research on plant-environment interaction in a changing climate combining biology and modern Internet-of-Things technologies \(Dettmar\)](#)

→ [IT Security \(Knospe\)](#)

→ [Micro and nano systems \(Kohlhof\)](#)

→ [Optical Software Development \(Weigand\)](#)

→ [Power Electronics for PV and Wind \(Dick\)](#)

→ [Power Electronics for PV and Wind \(Lohner\)](#)

→ [Scanning Microscopy \(Altmeyer\)](#)

→ [Servicemanagement in Netzen \(Leischner\)](#)

→ [Simulation of Illumination Systems \(Weigand\)](#)

→ [Software Engineering by Components and Pattern \(Kreiser\)](#)

→ [Special Aspects of Mobile Autonomous Systems \(Yuan\)](#)

→ [State Space Control \(Große\)](#)

→ [Systems Engineering for Energy Efficiency \(May\)](#)

→ [Virtual and Augmented Reality \(Fuhrmann\)](#)

→ [Virtuelle Private Netze \(Östreich\)](#)

→ [Zuverlässigkeit von Systemen \(Jung\)](#)