

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 \(Rosenthal\)](#)

→ [Anerkennung "Staatlich geprüfter Augenoptiker" \(BaOPT\)](#)

→ [Audio Engineering \(Reiter\)](#)

→ [Autonome Systeme \(Yuan\)](#)

→ [Autonomous Systems \(Yuan\)](#)

→ [Bachelor Thesis \(BaTIN\)](#)

→ [Bachelorarbeit \(BaET\)](#)

→ [Bachelorarbeit \(BaMT\)](#)

→ [Bachelorarbeit \(BaOPT\)](#)

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

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

→ [Business and Law \(Kim\)](#)

→ [Capstone-Projekt \(BaET\)](#)

→ [Colloquium \(BaTIN\)](#)

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

→ [Computer Graphics \(Fuhrmann\)](#)

→ [Computer Science 2 \(Fuhmann\)](#)

→ [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 \(Evers\)](#)

→ [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 \(Salmen\)](#)

→ [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)

➔ Kolloquium zur Bachelorarbeit (BaET)

➔ Kolloquium zur Bachelorarbeit (BaMT)

➔ Kolloquium zur Bachelorarbeit (BaOPT)

➔ Management of Projects in Information Technology (Yuan)

➔ Mathematics 2 (Bold)

➔ Mathematics 2 (Grünvogel)

➔ Mathematics 2 (Knospe)

➔ 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)

➔ Persönliche Studienverlaufsplanung (Kreiser)

➔ Photo Technology 2 (Fischer)

➔ Physics 1 (Humpert)

➔ Physics 1 (Kohlhof)

➔ [Physics 1 \(Oberheide\)](#)

➔ [Postproduction \(Gärtner\)](#)

➔ [Power Electronics \(Dick\)](#)

➔ [Practical Informatics 2 \(Rosenthal\)](#)

➔ [Practical Informatics 2 \(Yuan\)](#)

➔ [Practically based Summer School \(Schneider\)](#)

➔ [Praxis- und Mobilitätsphase \(BaMT\)](#)

➔ [Praxismodul 1 \(BaOPT\)](#)

➔ [Praxisprojekt \(BaET\)](#)

➔ [Praxisprojekt \(BaOPT\)](#)

➔ [Process Control Technology Systems \(Große\)](#)

➔ [Produktentwicklung für Smart City \(Stadler\)](#)

➔ [Programming distributed and mobile applications \(Vogt\)](#)

➔ [Project Camera Technology Applications \(Fischer\)](#)

➔ [Project Image Processing / Pattern Recognition \(Salmen\)](#)

➔ [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 \(Kreiser\)](#)

➔ [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 \(NN\)](#)

→ [Web-Architekturen \(Wörzberger\)](#)

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

^ Level: Bachelor, Winter Semester

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

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

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

→ [Anerkennung "Staatlich geprüfter Augenoptiker" \(BaOPT\)](#)

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

→ [Applied Mathematics \(Rhein\)](#)

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

→ [Bachelor Thesis \(BaTIN\)](#)

→ [Bachelorarbeit \(BaET\)](#)

→ [Bachelorarbeit \(BaMT\)](#)

→ [Bachelorarbeit \(BaOPT\)](#)

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

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

→ [Business and Law \(Kim\)](#)

→ [Camera Technology \(Fischer\)](#)

→ [Colloquium \(BaTIN\)](#)

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

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

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

→ [Computer Science 3 \(Lo Jacono\)](#)

→ Control Engineering (Krah).

→ Control System Technology (Kreiser).

→ Data Base Systems 1 (Behrend).

→ Data Mining (Rhein).

→ Data Mining (Rhein).

→ Datenbanken (Behrend).

→ 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).

→ Electronics (Poggemann).

→ Embedded Systems (Krawutschke).

→ Energy Storage (Stadler).

→ Entwicklung von Desktop-Anwendungen mit C++ und QT (Salmen).

→ 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 \(Banderath\)](#)

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

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

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

→ [Internship \(BaTIN\)](#)

→ [Kinderoptometrie \(BaOPT\)](#)

→ [Kolloquium zur Bachelorarbeit \(BaET\)](#)

→ [Kolloquium zur Bachelorarbeit \(BaMT\)](#)

→ [Kolloquium zur Bachelorarbeit \(BaOPT\)](#)

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

→ [Light microscopy \(Altmeyer\)](#)

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

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

→ [Machine Learnig \(Thieling\)](#)

→ [Mathematics 1 \(Bold\)](#)

→ [Mathematics 1 \(Grünvogel\)](#)

→ [Mathematics 1 \(Knosp\)](#)

→ [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 \(Vogt\)](#)

➔ [Praxis- und Mobilitätsphase \(BaMT\)](#)

➔ [Praxismodul 2 \(BaOPT\)](#)

➔ [Praxisprojekt \(BaET\)](#)

➔ [Presentation and Communication \(BaTIN\)](#)

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

➔ [Process Control Engineering \(Große\)](#)

➔ [Programming Practice \(Yuan\)](#)

➔ [Programming Project \(Kreiser\)](#)

➔ [Recipe Control \(Große\)](#)

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

➔ [Signal Processing \(Bartz\)](#)

➔ [Signal Theory and Applied Mathematics \(Salmen\)](#)

➔ [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 \(Reiter\)](#)

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

→ [Web-Architekturen \(Wörzberger\)](#)

→ [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 Matheamtics \(Grünvogel\)](#)

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

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

→ [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 \(Ladrière\)](#)

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

➔ [Intelligent Information Systems \(Behrend\)](#)

➔ [Kolloquium zur Masterarbeit \(MaCSN\)](#)

➔ [Kolloquium zur Masterarbeit \(MaET\)](#)

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

➔ [Machine Learning and Scientific Computing \(Rhein\)](#)

➔ [Master Thesis \(MaMT\)](#)

➔ [Master Thesis \(MaTIN\)](#)

➔ [Master Thesis Colloquium \(MaMT\)](#)

➔ [Master Thesis Defense \(MaTIN\)](#)

➔ [Master's project \(MaMT\)](#)

➔ [Masterarbeit \(MaCSN\)](#)

➔ [Masterarbeit \(MaET\)](#)

➔ [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 \(MaTIN\)](#)

➔ [Research Project \(MaCSN\)](#)

→ [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 \(Grebe\)](#)

→ [Advanced Seminar on Media Technology \(MaMT\)](#)

→ [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 \(Elders-Boll\)](#)

→ [Electric Railways \(Evers\)](#)

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

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

→ [Ethics \(MaTIN\)](#)

→ [Haptic Interfaces \(Civelek\)](#)

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

→ [IT forensics \(Bornemann\)](#)

→ [IT Security \(Knospe\)](#)

→ [Kolloquium zur Masterarbeit \(MaCSN\)](#)

→ [Kolloquium zur Masterarbeit \(MaET\)](#)

→ [Master Thesis \(MaMT\)](#)

→ [Master Thesis \(MaTIN\)](#)

→ [Master Thesis Colloquium \(MaMT\)](#)

→ [Master Thesis Defense \(MaTIN\)](#)

→ [Master's project \(MaMT\)](#)

→ [Masterarbeit \(MaCSN\)](#)

→ [Masterarbeit \(MaET\)](#)

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

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

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

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

→ [Project management \(Gartz\)](#)

→ [Project Management \(Dettmar\)](#)

→ [Quantum mechanics \(Oberheide\)](#)

→ [Research Project \(MaTIN\)](#)

→ [Research Project \(MaCSN\)](#)

→ [Research Project in Virtual Acoustics and Object Based Audio \(Reiter\)](#)

→ [Research Project Virtual and Augmented Reality \(Grünvogel\)](#)

→ [Research Seminar \(Krah\)](#)

→ [RF System Design \(Kronberger\)](#)

→ [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 (Österreich)

➔ Zuverlässigkeit von Systemen (Jung)
