



**German University  
of Digital Science**

# Education Reimagined

For the digital transformers of tomorrow

 [german-uds.de](https://www.german-uds.de)

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Digital Science  
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**As Professors Mike Friedrichsen and Christoph Meinel, we are proud to connect with you through this overview.**

**Rest assured, the German UDS is not only a meaningful response to the challenges of digitalisation, but it is also a project close to our hearts.**

**Education and digitalisation are the key drivers of life today and in the future. Reach out to us, and let's embark on this journey together.**

# Welcome



**Prof. Dr. Christoph Meinel**

The German University of Digital Sciences (German UDS) was founded by Professors Mike Friedrichsen and Christoph Meinel to address the global shortage of IT professionals. The university aims to make high-level digital education accessible to a broad audience. By using modern digital technologies and innovative teaching methods, it seeks to democratize access to education and empower people worldwide to actively shape the future of digital transformation.

A key objective of German UDS is to equip students with the critical thinking and practical skills needed to tackle the challenges of a digitalized world. The offered programs, including MBA degrees as well as Master's degrees are tailored to meet the demands of the modern global workforce. These programs provide practical skills that enable graduates to take a leading role in the development and implementation of digital technologies.

A special focus is placed on overcoming geographical and financial barriers. With moderate tuition fees, the university aims for a model that prioritizes both quality and affordability. This strategy allows a wide range of students to participate in the programs, regardless of their country of origin or financial situation. The German-UDS.academy, a open digital education platform, also offers a variety of interactive online courses, creating a global network for social learning.



**Prof. Dr. Mike Friedrichsen**

In the following years, our educational offerings will expand to include a Bachelor's program in "Digital World" as well as additional Open Courses and Micro-Degree Programs. The university aims to prepare students for the dynamic demands of the digital age and contribute sustainably to solving the global skills shortage.

# Overview

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# Vision & Mission



## Vision

Revolutionize the university education of the future by empowering global talents.

## Our Mission

Global education for all, in a fully virtual university  
German UDS is next-generation learning without borders.

We're a global community of thought leaders and academic innovators, changing the face of digital education and strengthening bonds with businesses in all sectors.

We offer lifelong learning in the digital age, through world-class degrees in scalable and globally available formats.



# Messages from our Advisory Board Members



German University  
of Digital Science



Digital innovations are also opening the doors to transform centuries-old venerable institutions such as universities.

The newly established German UDS enables people hungry for higher education to study anywhere in the world and giving them access to the global job market.

**Prof. Dr. Johanna Wanka**  
Board member German UDS



Digitalisation will have a lasting impact on the future of humanity in all areas of life, including how we teach and learn. German UDS is setting standards for what learning at universities will look like in the future.

**Prof. Dr. Hans Jürgen Prömel**  
Board member German UDS



The German University of Digital Sciences makes it possible to study a degree program and acquire advanced skills in digital technologies at your own place and pace.

**Prof. Dr. Merceron, Agathe**  
Board member German UDS



# Messages from our Advisory Board Members



German University  
of Digital Science



„I am delighted to support the German University of Digital Science as it embarks on its mission to shape the future of digital education. The university's innovative approach to blending technology with academia provides students with the skills they need to succeed in an increasingly digital world. I look forward to seeing its continued growth and impact on both students and the broader digital landscape.“

**Prof. Dr. Kristina Sinemus, Hessian Minister for Digital Affairs and Innovation**  
Board member German UDS



Navigating the Digital Age while embracing the rise of the Age of Intelligence calls for visionary thinking and decisive action. To thrive in the future society and workforce, cutting-edge technologies and innovative teaching formats are needed to empower those eager to acquire essential skills and knowledge. The German University of the Design Science is at the forefront of this transformative journey. Come and check it out!

**Prof. Dr. Carlos Delgado Kloos**  
Board member German UDS



"Digital education is transforming how we learn, breaking barriers and empowering individuals globally. German UDS stands at the forefront of this change, providing innovative and flexible programs tailored for the dynamic demands of our evolving world."

**Dr. Mohammad Smaidi**  
Board member German UDS



# Messages from our Advisory Board Members



German University  
of Digital Science



UDS is a most welcome and long overdue introduction! The world is changing, and science and technology are advancing at an unprecedented pace, which puts pressure on what higher education institutions offer and how.

The traditional way of offering higher education is not suitable for many people across the world. This is what makes UDS not only relevant but very necessary today. The kinds of programs that UDS offers as well as the mode of offering, are relevant for this rapidly changing world.

Learners of all ages can register to study with UDS, irrespective of where they are in the world and also irrespective of what is happening in their country. The range of programs as well as the flexibility makes UDS very relevant for adult learners who may be employed and also want to improve their skills.



**Prof. Dr. Mamokgethi Phakeng**  
Board member German UDS



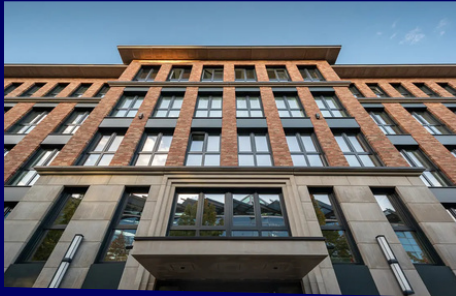
The digital age has arrived! So why not attend a fully virtual, digital university? Independent from a physical location and always on the top of the latest developments. For those thinking they don't have the right prerequisites or are still indecisive, I encourage you to just enrol! Why not complete a micro-degree program to find out if this fits into your career plan. The German UDS offers you outstanding and unique possibilities at all levels.

**Prof. Michael Rotert**  
Board member German UDS

# Why Choose German UDS?



German University  
of Digital Science



**Germany's first fully digital university**, the German University of Digital Science (German UDS), is located in Potsdam, near Berlin. UDS operates from its new 1,700-square-meter headquarters, the CloudHouse, located in Babelsberg. The modern facility supports the university's innovative education model, enabling a fully online experience—from lectures to exams—open to students and educators worldwide.

The recently inaugurated CloudHouse, offers a unique space with immersive "experience islands" that showcase the university's technological capabilities, including the German UDS Academy platform and an interactive Metaverse. Here, students can engage with state-of-the-art digital learning tools and connect with others in a global virtual setting.

The German UDS Academy, a core element of the university's vision, provides an additional vast selection of MOOCs (Massive Open Online Courses) and services that encourage critical thinking and practical skills essential for the digital world.

By providing high-quality education entirely in English, German UDS positions itself as a trailblazer in digital academia, addressing the worldwide shortage of IT skills. German UDS stands out by fostering a truly international, digital-first learning environment that removes geographic boundaries, letting students gain valuable insights into cutting-edge fields such as virtual reality and the Metaverse.

# Professors

## Prof. Dr. Mike Friedrichsen



He is a pioneer in digitalisation, founding e-commerce companies in the 90s. He was for over 25 years a full professor of Business Informatics and Digital Media at Stuttgart Media University and is the founding president of the German University of Digital Science.

He has entrepreneurial experience with various startups and is active in the non-profit sector. He founded the German Digital Science Foundation for innovative digital education projects and regularly gives guest lectures at international universities. Prof. Friedrichsen is the author of numerous books and articles.

## Prof. Dr. Christoph Meinel



He is the founding president of the German University of Digital Science. For almost 20 years he was the managing director of the Hasso Plattner Institute and developed the first European MOOC platform [openHPI.de](http://openHPI.de).

His research interests include digital education, artificial intelligence, information security, and design thinking. He has published over 800 peer reviewed papers and is a member of acatech, the German Academy of Science and Engineering.

# Professors

## Prof. Dr. Raul Rojas



He is an Emeritus Professor of AI at the Freie Universität Berlin and a two-time World Robotics Champion. His autonomous vehicles have been driving on Berlin's streets since 2007. He developed, amongst other things, reading devices for the blind, micro-robots, autonomous wheelchairs, and humanoid robots. In 2015, he received the "Professor of the Year" award. He has been honoured for his academic career in several countries, including Germany, the USA, Spain, and Mexico.

## Prof. Dr. Günter Schmidt



Günter Schmidt studied industrial engineering and computer science at the Technical University of Berlin. In 1983, he was awarded a doctorate in engineering. From 1988 to 1991, he held the Chair of Business Informatics at the European Business School and moved from there to Saarland University, where he held the Chair of Operations Research and Business Informatics (ORBI) from 1991 to 2017. In 1995 he was Visiting Professor at the University of Technology in Sydney and in 1998 at the Computer Science Institute ICSI at the University of California, Berkeley. Since 2012 he has been Honorary Research Associate at the University of Cape Town, South Africa.



# Professors



## **Prof. Dr. Thomas Staubitz**

He is a Senior Researcher at the German University of Digital Science since January 2024. He holds degrees in Multimedia Producer, International Computer Science and a Doctorate in Computer Science. Before he joined the German UDS he was a Senior Lecturer at the HPI in Potsdam, responsible for the openHPI MOOC platform and several of its partner platforms. He has designed, produced and conducted several online courses. He has been working in several software development and teaching roles, has published researches on open online learning and is a Senior IEEE Member.



## **Prof. Dr. Julia von Thienen**

She holds a PhD in psychology with a focus on neuroscience, research methodology, and philosophy. She has taught at the Free University of Berlin and the University of Chicago. Since 2008, she has led the Neurodesign Group at the Hasso-Plattner-Institut, researching the biological underpinnings of creativity and innovation. Julia emphasizes ethical dimensions in innovation, advocating for life-centered and planet-centered design, and contributes to the M.I.T.-HPI Designing for Sustainability Program.



# Professors



## **Dr. Hanadi Traifeh**

She is a senior advisor in Design Thinking & Innovation education at the German University of Digital Science and a senior researcher at the Hasso Plattner Institute. She holds a PhD in Design Thinking, a Master's Degree in Fine Arts, and a Postgrad Certificate in Instructional Design. She also serves as an advisor and consultant for organisations worldwide. Over the past two decades, she has focused in numerous online and offline educational and capacity-building programs on learner-centric education design and Design Thinking. She frequently speaks at global conferences and has published her research widely.



## **Prof. Dr. Georg Loscher**

Dr. Georg Loscher is a Senior Researcher at the German University of Digital Science, specialising in the digital transformation of management. He previously held a senior research position at the Universität der Bundeswehr München, where he completed his PhD and habilitation. Dr. Loscher has also conducted academic visits at the University of Oxford and Trinity College Dublin, focusing on how digital technologies reshape management and work.

# Professors

## **Prof. Dr. Marco Bade**



He is an economist serving as Senior Researcher at German University of Digital Science. Previously, he held positions as Associate Professor at ICN Business School, Faculty Member of the CEREFIGE research laboratory at Université de Lorraine, Postdoctoral Researcher at Technische Universität Berlin, Interim Professor and Chair of Finance and Banking at Universität Potsdam, and Research Associate at Berlin School of Economics. His research focuses on the economics of business venturing, particularly entrepreneurial finance.

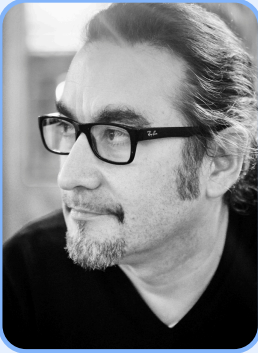
## **Prof. Dr. Felix Weitkämper**



He is a Senior Researcher at the German University of Digital Science, contributing to AI research and education. He studied Mathematics with Philosophy at the LMU in Munich and earned his PhD in Mathematics at the University of Oxford. He then taught in England before joining the programming languages and AI group at the LMU as a postdoctoral researcher. His research focuses on interpretable, human-centered AI, combining statistical learning with logical reasoning.

# Professors

## **Prof. Dr. Steven Ney**



He completed his doctorate in policy sciences at the University of Bergen. He has worked in various research institutes, including the LOS Center in Bergen, ICCR in Vienna and the International Institute for Applied Systems Analysis in Laxenburg. He held various roles at different universities and led and implemented education formats at the HPI Academy. In 2018, he joined T-Systems International, designing and delivering co-creation processes to help develop innovative digital products and strategies and new business models. Most recently, Steven was involved in designing and delivering the X-Creation format.

## **Dr. Maurice Steinhoff**



He is Head of Entrepreneurship Ecosystem at HHL Leipzig Graduate School of Management. Utilizing his background in Information Systems and Management, he served in various roles such as Consultant, Research Associate before co-founding HHL DIGITAL SPACE. He is also a frequent Visiting Professor at various European universities on topics comprising Entrepreneurship, Innovation and Organisations, and Problem Solving & Communication.

# Professors

## Dr. Pejman Najafi



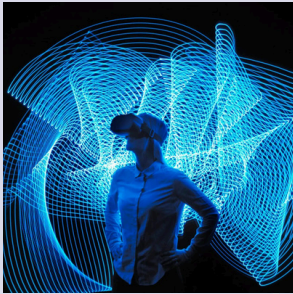
He is a postdoc at Hasso Plattner Institute (HPI) and holds an M.Sc. in Information Security from University College London, UK, and a Ph.D. in Cybersecurity from the University of Potsdam, Germany. With a strong academic background and extensive industry experience, including security consulting roles for companies such as Shell, SAP, and Deutsche Telekom, Pejman has established himself as an expert in cybersecurity. His research and work focus on enhancing Security Operations (SOCs) through the use of Big Data Analytics, Artificial Intelligence and Machine Learning.

# Academic Programs



## MBA Programs 1 year, 60 ECTS

- MBA Digital Transformation
- MBA Digital Technologies



## M.Sc. Programs 2 years, 120 ECTS

- Digital Leadership
- Advanced Digital Reality
- Applied AI
- Cybersecurity



## B.Sc. Program 3 years, 180 ECTS

- Digital World



## Over 40 Micro-Degree Programs 3 months, 5 ECTS

## Why Choose this MBA?

- **Become a Digital Leader:** Gain essential IT and management skills for high-demand roles in digital transformation across global industries.
- **Career Versatility:** Prepares you for diverse sectors, including IT, consulting, finance, healthcare, media, and more.
- **Interdisciplinary Collaboration:** Work with peers from various fields, fostering innovation and cross-functional teamwork.
- **Hands-on Project Experience:** Engage in individual and team projects that build real-world skills in research, planning, and execution.
- **Develop Critical Skills:** Hone your critical thinking, communication, and conceptual abilities for a broad range of media and audiences.
- **Industry Engagement:** Connect with professionals at events, masterclasses, and festivals, gaining insights directly from industry experts.





# MBA Program

## MBA Digital Transformation

### Study Plan

| 1st Quarter                                                                   | 2nd Quarter                                                                             | 3rd Quarter                              | 4th Quarter              |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------|--------------------------|
| Complex Problem Solving & Design Thinking (4 ECTS)                            | Envision & Strategize: Data Analytics and Decision-Making (4 ECTS)                      | Synthesize & Anchor: Elective 1 (4 ECTS) | Impact Project (15 ECTS) |
| Envision & Strategize: Understanding and Designing the Digital World (4 ECTS) | Envision & Strategize: Digital Business Models & Venture Building (4 ECTS)              | Synthesize & Anchor: Elective 2 (4 ECTS) |                          |
| Envision & Strategize: Big Data, Software Systems, Cloud Computing (4 ECTS)   | Envision & Strategize: Strategic Management and Entrepreneurial Transformation (4 ECTS) | Start Impact Project                     |                          |
| Coding Camp I: Python (4 ECTS)                                                | Coding Camp II (4 ECTS)                                                                 | Group Challenge (5 ECTS)                 |                          |

## Why Choose this MBA?

- **Become a Digital Leader:** Gain essential IT and management skills for high-demand roles in digital transformation across global industries.
- **Career Versatility:** Prepares you for diverse sectors, including IT, consulting, finance, healthcare, media, and more.
- **Interdisciplinary Collaboration:** Work with peers from various fields, fostering innovation and cross-functional teamwork.
- **Hands-on Project Experience:** Engage in individual and team projects that build real-world skills in research, planning, and execution.
- **Develop Critical Skills:** Hone your critical thinking, communication, and conceptual abilities for a broad range of media and audiences.
- **Industry Engagement:** Connect with professionals at events, masterclasses, and festivals, gaining insights directly from industry experts.



# MBA Program

## MBA Digital Technologies

### Study Plan

| 1st Quarter                                                                   | 2nd Quarter                                                              | 3rd Quarter                              | 4th Quarter              |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------------------|--------------------------|
| Complex Problem Solving & Design Thinking (4 ECTS)                            | Envision & Strategize: Data Analytics and Decision-Making (4 ECTS)       | Synthesize & Anchor: Elective 1 (4 ECTS) | Impact Project (15 ECTS) |
| Envision & Strategize: Understanding and Designing the Digital World (4 ECTS) | Envision & Strategize: Machine Learning & Analytics (4 ECTS)             | Synthesize & Anchor: Elective 2 (4 ECTS) |                          |
| Envision & Strategize: Big Data, Software Systems, Cloud Computing (4 ECTS)   | Envision & Strategize: Understanding and Managing Cybersecurity (4 ECTS) | Start Impact Project                     |                          |
| Coding Camp I: Python (4 ECTS)                                                | Coding Camp II (4 ECTS)                                                  | Group Challenge (5 ECTS)                 |                          |



## Why Choose the M.Sc. in Digital Leadership?

- **Cutting-Edge Knowledge:** Gain expertise in economics, information science, and advanced digital technologies like machine learning and software systems.
- **Interdisciplinary Problem Solving:** Learn to integrate technical know-how with creative strategy to tackle complex digital challenges and develop innovative leadership solutions.
- **Global Digital Pioneers:** Designed for international talents aiming to lead digital transformations and drive industry-shifting business models.
- **Leadership and Management Skills:** Master strategic management, change management, and entrepreneurship to lead high-impact projects and teams.
- **Research-Driven Insights:** Build strong research skills and gain tools for independent research, with pathways to further academic qualifications or entrepreneurial ventures.
- **Ethics and Impact:** Develop the ability to assess ethical, legal, and social issues in digital contexts, ensuring responsible leadership.
- **High Demand Skills:** Enter the workforce equipped for high-demand roles that require advanced knowledge of digital business models and interdisciplinary teamwork.
- **Diverse Community:** Join a network of students from varied backgrounds, ready to share unique perspectives and shape the future of digital leadership.

# M.Sc. Program

## M.Sc. Digital Leadership

### Study Plan Year 1

| 1st Quarter                                                                   | 2nd Quarter                                                                             | 3rd Quarter                                                                    | 4th Quarter                                                |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------|
| Bootcamp I: Complex Problem Solving (5 ECTS)                                  | Bootcamp II: Design Thinking (5 ECTS)                                                   | Envision & Strategize: Big Data, Software Systems, Cloud Computing (5 ECTS)    | Experiment I: Group Challenge Digital Leadership (15 ECTS) |
| Envision & Strategize: Understanding and Designing the Digital World (5 ECTS) | Envision & Strategize: Strategic Management and Entrepreneurial Transformation (5 ECTS) | Envision & Strategize: Machine Learning and Analytics (5 ECTS)                 |                                                            |
| Coding Camp I: Python (5 ECTS)                                                | Coding Camp II (5 ECTS)                                                                 | Envision & Strategize: Digital Age Leadership & Innovation Management (5 ECTS) |                                                            |

### Study Plan Year 2

| 5th Quarter                              | 6th Quarter                              | 7th Quarter                                 | 8th Quarter             |
|------------------------------------------|------------------------------------------|---------------------------------------------|-------------------------|
| Synthesize & Anchor: Elective 1 (5 ECTS) | Synthesize & Anchor: Elective 4 (5 ECTS) | Experiment II: Master's Challenge (15 ECTS) | Master Thesis (15 ECTS) |
| Synthesize & Anchor: Elective 2 (5 ECTS) | Synthesize & Anchor: Elective 5 (5 ECTS) |                                             |                         |
| Synthesize & Anchor: Elective 3 (5 ECTS) | Synthesize & Anchor: Elective 6 (5 ECTS) |                                             |                         |





## Why Choose this M.Sc. in Advanced Digital Reality?

- **Pioneering Digital Realities:** Gain cutting-edge expertise in Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), and other immersive digital technologies.
- **Interdisciplinary Innovation:** Learn to blend technical skills with creative application to solve complex digital challenges across multiple sectors.
- **Specialized 3D and Animation Skills:** Master advanced techniques in 3D modeling, animation, and character creation for immersive experiences.
- **Immersive Technology Exploration:** Study haptic feedback, multisensory integration, and neurological aspects to create realistic and interactive digital environments.
- **Industry-Driven Applications:** Tailor your skills for specific fields like education, healthcare, gaming, and architecture, preparing for diverse career paths in digital realities.
- **Research Excellence:** Conduct in-depth research on emerging digital reality topics and develop hands-on projects that explore real-world applications.
- **Capstone Project and Thesis:** Create an impactful final project or research paper, showcasing your specialized skills and insights in VR, AR, or extended reality.
- **High-Demand Expertise:** Enter a growing field equipped with sought-after skills in digital realities, positioning yourself at the forefront of technological innovation.



# M.Sc. Program

## M.Sc. Advanced Digital Reality

### Study Plan Year 1

| 1st Quarter                                            | 2nd Quarter                                                             | 3rd Quarter                                                                 | 4th Quarter                                             |
|--------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------|
| Bootcamp I: Complex Problem Solving (5 ECTS)           | Bootcamp II: Design Thinking (5 ECTS)                                   | Envision & Strategize: Big Data, Software Systems, Cloud Computing (5 ECTS) | Experiment I: Group Challenge Digital Reality (15 ECTS) |
| Envision & Strategize: Immersive Technologies (5 ECTS) | Envision & Strategize: Special Effects and Particle Simulation (5 ECTS) | Envision & Strategize: Haptics and Multisensory Integration (5 ECTS)        |                                                         |
| Coding Camp I: Python (5 ECTS)                         | Coding Camp II (5 ECTS)                                                 | Envision & Strategize: Applications of AI (5 ECTS)                          |                                                         |

### Study Plan Year 2

| 5th Quarter                              | 6th Quarter                              | 7th Quarter                                 | 8th Quarter             |
|------------------------------------------|------------------------------------------|---------------------------------------------|-------------------------|
| Synthesize & Anchor: Elective 1 (5 ECTS) | Synthesize & Anchor: Elective 4 (5 ECTS) | Experiment II: Master's Challenge (15 ECTS) | Master Thesis (15 ECTS) |
| Synthesize & Anchor: Elective 2 (5 ECTS) | Synthesize & Anchor: Elective 5 (5 ECTS) |                                             |                         |
| Synthesize & Anchor: Elective 3 (5 ECTS) | Synthesize & Anchor: Elective 6 (5 ECTS) |                                             |                         |



## Welcome To The Future

### Why Choose this M.Sc. in Applied Artificial Intelligence?

- **Comprehensive AI Expertise:** Master key areas of AI, including symbolic AI, neural networks, probabilistic AI, language models, and intelligent control systems.
- **Real-World Applications:** Learn to adapt AI models for diverse sectors like healthcare, education, industry, and services, addressing concrete challenges.
- **Hands-On Coding Skills:** Build and utilize AI libraries while ensuring systems are interpretable, not "black boxes." Develop datasets and applications using supervised, unsupervised, and reinforcement learning techniques.
- **Interdisciplinary and Team-Based Learning:** Collaborate on high-tech projects and solve complex problems, often proposed by industry partners, fostering creativity and innovation.
- **Focus on Ethics and Security:** Understand the ethical and security implications of AI from the very beginning, ensuring responsible and impactful applications.
- **Research and Specialization:** Conduct advanced research and gain experience in developing cutting-edge AI solutions through a mix of required and elective courses.
- **Capstone Project and Thesis:** Showcase your expertise with an independent project or research paper, delving into emerging applied or theoretical topics in AI.
- **Global Career Prospects:** Prepare for in-demand roles in one of the world's fastest-growing fields, equipped with both theoretical foundations and practical skills for impactful AI leadership.

# M.Sc. Program

## M.Sc. Applied AI

### Study Plan Year 1

| 1st Quarter                                           | 2nd Quarter                                                                      | 3rd Quarter                                                                 | 4th Quarter                                |
|-------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------|
| Bootcamp I: Complex Problem Solving (5 ECTS)          | Bootcamp II: Design Thinking (5 ECTS)                                            | Envision & Strategize: Big Data, Software Systems, Cloud Computing (5 ECTS) | Experiment I: Group Challenge AI (15 ECTS) |
| Envision & Strategize: Logic and Symbolic AI (5 ECTS) | Envision & Strategize: Machine Learning & Analytics, Machine Learning I (5 ECTS) | Envision & Strategize: Machine Learning II: Deep Learning (5 ECTS)          |                                            |
| Coding Camp I: Python (5 ECTS)                        | Coding Camp II (5 ECTS)                                                          | Envision & Strategize: Applications of AI (5 ECTS)                          |                                            |

### Study Plan Year 2

| 5th Quarter                              | 6th Quarter                              | 7th Quarter                                 | 8th Quarter             |
|------------------------------------------|------------------------------------------|---------------------------------------------|-------------------------|
| Synthesize & Anchor: Elective 1 (5 ECTS) | Synthesize & Anchor: Elective 4 (5 ECTS) | Experiment II: Master's Challenge (15 ECTS) | Master Thesis (15 ECTS) |
| Synthesize & Anchor: Elective 2 (5 ECTS) | Synthesize & Anchor: Elective 5 (5 ECTS) |                                             |                         |
| Synthesize & Anchor: Elective 3 (5 ECTS) | Synthesize & Anchor: Elective 6 (5 ECTS) |                                             |                         |



## Why Choose this M.Sc. in Cybersecurity?

- **Comprehensive Expertise in Cybersecurity:** Gain advanced knowledge in areas such as security engineering, threat detection, cryptographic algorithms, and secure identity management for high-security environments.
- **Hands-On, Practice-Oriented Learning:** Follow a "learning by doing" approach with real-world scenarios, including vulnerability modeling, penetration testing, red/blue team exercises, and disaster recovery strategies.
- **Innovative Security Technologies:** Explore cutting-edge advancements in machine learning, blockchain, IoT, quantum computing, and cyber-physical systems to secure modern digital infrastructures.
- **Enterprise Security Solutions:** Develop expertise in AI-powered security operations, big data analytics, cloud security, and corporate protection strategies.
- **High Demand Career Paths:** Prepare for leadership roles such as security engineer, analyst, privacy officer, or chief security officer across industries, from government to healthcare to academia.
- **Focus on Emerging Challenges:** Address the growing sophistication of cyber-attacks with innovative methods for monitoring and securing complex IT systems.
- **Diverse Perspectives Welcome:** Designed for students from STEM and other backgrounds, the program values unique viewpoints to tackle the evolving cybersecurity landscape.
- **Capstone Project and Research:** Advance your skills through a final project and thesis, contributing to the development of next-generation cybersecurity strategies and technologies.
- **Global Relevance:** Enter a rapidly growing field with the expertise needed to combat global cybersecurity threats and protect critical digital infrastructures.

# M.Sc. Program

## M.Sc. Cybersecurity

### Study Plan Year 1

| 1st Quarter                                           | 2nd Quarter                                                | 3rd Quarter                                                                 | 4th Quarter                                           |
|-------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------|
| Bootcamp I: Complex Problem Solving (5 ECTS)          | Bootcamp II: Design Thinking (5 ECTS)                      | Envision & Strategize: Big Data, Software Systems, Cloud Computing (5 ECTS) | Experiment I: Group Challenge Cybersecurity (15 ECTS) |
| Envision & Strategize: Security Fundamentals (5 ECTS) | Envision & Strategize: Systems & Network Security (5 ECTS) | Envision & Strategize: Software & Application Security (5 ECTS)             |                                                       |
| Coding Camp I: Python (5 ECTS)                        | Coding Camp II (5 ECTS)                                    | Envision & Strategize: Information Security Management (5 ECTS)             |                                                       |

### Study Plan Year 2

| 5th Quarter                              | 6th Quarter                              | 7th Quarter                                 | 8th Quarter             |
|------------------------------------------|------------------------------------------|---------------------------------------------|-------------------------|
| Synthesize & Anchor: Elective 1 (5 ECTS) | Synthesize & Anchor: Elective 4 (5 ECTS) | Experiment II: Master's Challenge (15 ECTS) | Master Thesis (15 ECTS) |
| Synthesize & Anchor: Elective 2 (5 ECTS) | Synthesize & Anchor: Elective 5 (5 ECTS) |                                             |                         |
| Synthesize & Anchor: Elective 3 (5 ECTS) | Synthesize & Anchor: Elective 6 (5 ECTS) |                                             |                         |

# Electives for all Postgraduate Programs

## Selection of Electives (à 4 or 5 ECTS) for all Postgraduate Programs

| Law, Business & Administration              |                              | Probability & Statistics       |                              | Data Protection & Ethics              |                                                     | Data Ethics in AI                      |                                 | Ethics & Sustainability |  | Information Security Management |  |
|---------------------------------------------|------------------------------|--------------------------------|------------------------------|---------------------------------------|-----------------------------------------------------|----------------------------------------|---------------------------------|-------------------------|--|---------------------------------|--|
| Digitalization                              |                              | Artificial Intelligence        |                              | Advanced Digital Reality              |                                                     | Cybersecurity                          |                                 |                         |  |                                 |  |
| Understanding & Designing the Digital World | Digital Marketing & Media    | Machine Learning I             | Machine Learning & Analytics | Immersive Technologies                | Computer Vision and Perception                      | Security Fundamentals                  | Systems & Network Security      |                         |  |                                 |  |
| Digital Age Leadership & Innovation Mgmt    | Analytics & Decision Making  | Machine Learning II            | Applications of AI           | Advanced 3D Modeling                  | Storytelling & Gamification                         | Understanding & Managing Cybersecurity | Mobile & Wireless Security      |                         |  |                                 |  |
| Dig. Business Models & Venture Building     | Data-driven Systems          | Advanced Deep Learning         | Natural Language Processing  | Augmented Human Performance           | Digital Reality Content Creation                    | Identity Management & Authentication   | Software & Application Security |                         |  |                                 |  |
| Strategic Mgmt & Entrepreneurial Transfer   | Data Warehousing             | Logic and Symbolic AI          | Explainability in AI Systems | Haptics and Multisensory Integration  | Software Development for Digital Reality            | AI-Powered Cybersecurity               | Internet & Web Security         |                         |  |                                 |  |
| Corporate Entrepreneurship & Innovation     | Transforming Public Services | Probabilistic Graphical Models | Reinforcement Learning       | Special Effects & Particle Simulation | Project Mgmt. & Entrepreneurship in Digital Reality | Offensive & Defensive Security         | Enterprise Security             |                         |  |                                 |  |



## Why Choose this B.Sc. in Digital World?

- **Comprehensive Digital Foundations:** Gain essential knowledge in economics, information science, and digital technologies across sectors like business, healthcare, and energy.
- **Innovative Thinking:** Develop creativity and innovation skills to contribute to strategies and solutions for successful digital transformation.
- **Real-World Readiness:** Learn to tackle complex problems, communicate results effectively to decision-makers, and critically discuss new concepts and ideas.
- **Research and Practical Skills:** Build a strong foundation in research methods and hands-on practices to carry out independent development and fundamental research projects.
- **Interdisciplinary Focus:** Prepare for roles in interdisciplinary teams or further academic pursuits in a Master's program, gaining insights from diverse fields and applications.
- **Digital Transformation Expertise:** Understand and shape the evolving landscape of digitalisation, equipping yourself with the skills to design impactful digital experiences.
- **Global Career Demand:** Enter a world where professionals skilled in digital transformation are highly sought after in industries, government, and society.
- **For Passionate Innovators:** Ideal for students with a passion for digital technologies and a drive to contribute their unique perspectives to the fast-evolving digital industry.

# B.Sc. Program

## B.Sc. Digital World

### Study Plan Year 1

| 1st Quarter        | 2nd Quarter                               | 3rd Quarter                                | 4th Quarter                                          |
|--------------------|-------------------------------------------|--------------------------------------------|------------------------------------------------------|
| Bootcamp (15 ECTS) | Digital Technology Foundations 1 (5 ECTS) | Digital Technology Foundations 2 (5 ECTS)  | Digital Technology Foundations 3 (5 ECTS)            |
|                    | Mathematics (5 ECTS)                      | Digital Technologies for Business (5 ECTS) | Digital Technologies for Health & Wellbeing (5 ECTS) |
|                    | Economic Foundations 1 (5 ECTS)           | Economic Foundations 2 (5 ECTS)            | Legal Foundations 1 (5 ECTS)                         |

### Study Plan Year 2

| 5th Quarter                                          | 6th Quarter                                            | 7th Quarter                              | 8th Quarter                             |
|------------------------------------------------------|--------------------------------------------------------|------------------------------------------|-----------------------------------------|
| Digital Technology Foundations 4 (5 ECTS)            | Digital Technology Foundations 5 (5 ECTS)              | Elective 1 (5 ECTS)                      | Elective 3 (5 ECTS)                     |
| Digital Technologies for Sustainable Energy (5 ECTS) | Digital Technologies for Governance & Society (5 ECTS) | Elective 2 (5 ECTS)                      | Elective 4 (5 ECTS)                     |
| Legal Foundations 2. (5 ECTS)                        | Analytics and Decision-Making 1 (5 ECTS)               | Analytics and Decision-Making 2 (5 ECTS) | Innovation Management & Change (5 ECTS) |

# B.Sc. Program

## B.Sc. Digital World

### Study Plan Year 3

| 1st Quarter                 | 2nd Quarter                       | 3rd Quarter              | 4th Quarter               |
|-----------------------------|-----------------------------------|--------------------------|---------------------------|
| Elective 5 (5 ECTS)         | Elective 7 (5 ECTS)               | Impact Project (15 ECTS) | Academic Writing (5 ECTS) |
| Elective 6 (5 ECTS)         | Elective 8 (5 ECTS)               |                          | Bachelor Thesis (10 ECTS) |
| Project Management (5 ECTS) | Leading People and Teams (5 ECTS) |                          |                           |

## Electives

| Electives (select 8 out of 12)    |                                  |                                          |
|-----------------------------------|----------------------------------|------------------------------------------|
| Business & Entrepreneurship       | Mathematics & Informatics        | Digital Skills & Competencies            |
| Digital Entrepreneurship (5 ECTS) | Mathematics II (5 ECTS)          | Communication & Presentation (5 ECTS)    |
| Digital Finance (5 ECTS)          | Theoretical Informatics (5 ECTS) | Social Competencies & Diversity (5 ECTS) |
| Digital Marketing (5 ECTS)        | Coding Camp I (5 ECTS)           | Data Literacy (5 ECTS)                   |
| Digital Supply Chain (5 ECTS)     | Coding Camp II (5 ECTS)          | Creativity Management (5 ECTS)           |

## Why Choose a micro-degree program for professional education?

### What is a micro-degree program?

Beside of the MBA, B.Sc. and M.Sc. study programs offered by the German University of Digital Science, the single teaching modules of the various study programs are offered by the German UDS individually or in thematically bundled blocks as interactive online **micro-degree programs**. These programs are certified teaching offers for continued education and lifelong learning and provide learners with valuable knowledge and skills. Learners who wish to retrain themselves or to continue their education on a very specific topic of digitalization can enroll to our micro degree program and obtain a micro degree graded with 5 ECTS credits independently of the study programs. When applying for one of the academic degree programs at a later date, these credits can be brought in and recognized as credits for the program.

### How to enroll and complete a micro-degree program offered by the German UDS?

The micro-degree programs are offered via the educational platform German-UDS.academy of the German UDS, which stays at the forefront of digital education. Leveraging the German UDS' expertise in digital teaching, the platform ensures that online micro-degree programs content is of the highest quality.

There is great content range of micro-degree programs, design and offered by the professors and lecturers of the German UDS and its partners. Every interested learner can enroll into a micro-degree program without any prerequisites. Each micro-degree program is offered over a time span of 3 months and can be taken for 900€.

Do you want to take a micro-degree program? Please register free at German-UDS.academy to benefit from all learning features.

# Micro-Degrees (5 ECTS)



German University  
of Digital Science

## Benefits from taking micro-degree programs offered by the German UDS

To be at the forefront of progress in shaping digital change, you need to continuously develop your knowledge and skills. By means of micro-degree programs offered by the German UDS this is possible in a very convenient and smooth way.

1. **Flexible Learning:** Micro-Degree programs of the German UDS are fully online, allowing learners to access course materials and participate at their own convenience, regardless of geographical location or time constraints. This flexibility enables independent and self-paced learning.
2. **Interactive Learning Community:** Enrolling to the online micro-degree offered by the German UDS foster diverse and interactive engagement within the learning community, creating a dynamic and engaging learning environment.
3. **High Quality:** Micro-degree programs offered by German-UDS.academy are known for their exceptional quality, delivering meaningful, valuable, innovative, and up-to-date content.

## Select your field of interest and enroll in the fitting micro-degree programs

Stay at the forefront of your field and enroll into micro-degree programs or whole study programs offered by the German UDS and its interactive learning platform German-UDS.academy. You are very welcome and we promise to offer our teaching programs at the highest level of expertise in an excellent quality.

# Available Micro-Degree Programs

## Available 3-months Micro-Degree Programs with 5 ECTS

| Law, Business & Administration              |                              | Probability & Statistics       |                              | Data Protection & Ethics              |                                                     | Data Ethics in AI                      |                                 | Ethics & Sustainability |  | Information Security Management |  |
|---------------------------------------------|------------------------------|--------------------------------|------------------------------|---------------------------------------|-----------------------------------------------------|----------------------------------------|---------------------------------|-------------------------|--|---------------------------------|--|
| Digitalization                              |                              | Artificial Intelligence        |                              | Advanced Digital Reality              |                                                     | Cybersecurity                          |                                 |                         |  |                                 |  |
| Understanding & Designing the Digital World | Digital Marketing & Media    | Machine Learning & Analytics   | Data Ethics                  | Immersive Technologies                | Computer Vision and Perception                      | Security Fundamentals                  | Systems & Network Security      |                         |  |                                 |  |
| Digital Age Leadership & Innovation Mgmt    | Analytics & Decision Making  | Deep Learning                  | Applications of AI           | Advanced 3D Modeling                  | Storytelling & Gamification                         | Understanding & Managing Cybersecurity | Mobile & Wireless Security      |                         |  |                                 |  |
| Dig. Business Models & Venture Building     | Data-driven Systems          | Advanced Deep Learning         | Natural Language Processing  | Augmented Human Performance           | Digital Reality Content Creation                    | Identity Management & Authentication   | Software & Application Security |                         |  |                                 |  |
| Strategic Mgmt & Entrepreneurial Transfer   | Data Warehousing             | Logic and Symbolic AI          | Explainability in AI Systems | Haptics and Multisensory Integration  | Software Development for Digital Reality            | AI-Powered Cybersecurity               | Internet & Web Security         |                         |  |                                 |  |
| Corporate Entrepreneurship & Innovation     | Transforming Public Services | Probabilistic Graphical Models | Reinforcement Learning       | Special Effects & Particle Simulation | Project Mgmt. & Entrepreneurship in Digital Reality | Offensive & Defensive Security         | Enterprise Security             |                         |  |                                 |  |





**German University  
of Digital Science**



Reshaping lives  
worldwide through  
digital knowledge.

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