Micro-Degree Programs
Offered in the Study Quarter 1/07/25 - 30/09/25

What are Micro-Degree programs?

In addition to the full degree programs offered by the German University of Digital Science, the individual teaching modules of the various study programs are also offered separately or in thematically bundled blocks as interactive online Micro Degree Programs.

These 3-month programs are designed for lifelong learning and professional development, providing learners with valuable knowledge and skills. Learners who wish to up-skill, re-skill, or further their education on a specific digitization topic can enroll in Micro Degree Programs and earn a Micro Degree worth 5 credits (ECTS). One of the main advantages of a Micro Degree is that it can be recognized by any university for a full degree program.

Registration Link: https://campus.german-uds.de/micro-degree-programs

Digital Business Models & Venture Building

Program Overview

Digital Business Models play a fundamental role in an organization for realizing new ways of value creation for customers and remaining competitive in an increasingly digital world.

Program Outcomes

The module follows a structured approach covering all relevant steps applicable to building stand-alone ventures (start-ups) as well corporate ventures (new businesses within existing organizations) alike.

Learning Objectives

- Provide students with an understanding of advanced concepts for digital business model development.
- have in-depth knowledge of the venture building process
- know how to create and realize new business ideas outside and inside of existing organizations

Module Instructor: Prof. Dr. Georg Loscher

Design Thinking

Program Overview

This module is part of the "Rootcamp" which onboards students to the program, the teaching and learning methods. It teaches the principles, techniques and processes of Design Thinking, a user-centric approach to generating innovations.

Program Outcomes

Students learn Design Thinking principles, techniques, and processes, applying them to real-world challenges. The module emphasizes teamwork, collaboration, and effective presentation skills.

Learning Objectives

- Acquire subject-specific theoretical and methodological knowledge
- Explore, understand and apply the methods and mindsets of Design Thinking
- Practice techniques using concrete project challenges

Module Instructor: Prof. Dr. Steven Ney

Strategic Management & Entrepreneurial Transformation

Program Overview

Within fast changing environments, a strategic perspective is fundamentally important for setting the right directions for future developments of companies.

Program Outcomes

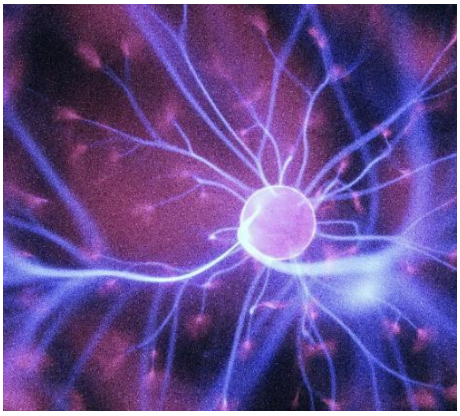
the central aim of this module is to provide students with the economic understanding and skills necessary to become good strategists — whether in a large corporation, a midsized company, or an entrepreneurial startup.

Learning Objectives

- Enable students to recognize and describe the characteristics of entrepreneurial management in established companies.
- Assess and evaluate the relevance of entrepreneurial activity in established companies for innovation.
- Evaluate the economics of strategies chosen by companies concerning their potential for future.

Module Instructor: Prof. Dr. Marco Bade

Machine Learning & Analytics



Decision**Program Overview**-making is empowered by (big) data through the use of machine learning and data analytics principles.

Program Outcomes

In the course, students will compare different theoretical approaches to AI and be able to choose the best problemsolving strategy for a given application.

Learning Objectives

- Students understand the fundamental goals of machine learning and data analytics.
- Provide students with an advanced understanding of the mathematics and technology behind AI models.
- They become proficient in the application of methods of data science, machine learning, and data analytics.

Module Instructor: Prof. Dr. Felix Weitkämper

Data Analytics & Decision Making

Program Overview

This module provides advanced knowledge about the structure and analysis of large amounts of data and how this is to be used in decision-making processes.

Program Outcomes

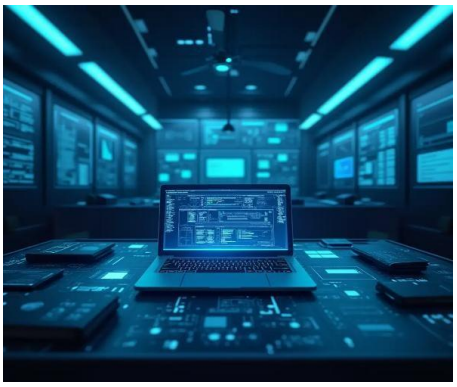
Students learn the difference between descriptive, diagnostic, predictive and prescriptive analytics and their application in business contexts.

Learning Objectives

- Acquire subject-specific theoretical and methodological knowledge.
- Understand the possibilities and limitations of data analytics.
- Are able to assess, compare and apply different methods of analysis.

Module Instructor: Prof. Dr. Katya Artemova

Building Virtual Worlds and Simulated Environments



Program Overview

This module introduces students to the theoretical and technical foundations of immersive virtual world design, using tools like Unity to integrate geometry, lighting, physics, rendering, and interaction systems.

Program Outcomes

Students will be able to create interactive, visually realistic, and technically optimized XR environments through hands-on experience with spatial modeling, simulation, rendering, and performance tuning.

Learning Objectives

- Model and structure immersive environments using principles of geometry, spatial layout, and 3D transformations, while simulating physics-based interactions through tools like Unity and C#.
- Design and implement interactive and visually compelling virtual worlds by integrating real-time rendering, perceptually informed lighting, and responsive user interactions.
- Optimize XR experiences by managing rendering performance, platform constraints, and evaluating virtual worlds for visual, experiential, and computational quality aligned with user-centered design.

Module Instructor: Daniele Di Mitri

Systems & Network Security

Program Overview

This module first looks at the relevant characteristics of different systems and networks in order to identify and categorize attack vectors and potential vulnerabilities. This then makes it possible to consider various theoretical security concepts and measures and to examine their practical implementation for specific attack vectors.

Program Outcomes

In this module, Students acquire experience in using systems and tools to analyse security measures and identify potential attack vectors. Students will gain insight into current state and open challenges of practice and research on the topic of systems and network security.

Learning Objectives

- Students know relevant characteristics/security concepts of common systems and networks, as well as potential vulnerabilities;
- Students will be able to independently analyse systems and networks using appropriate methods on a theoretical level and identify potential attack vectors;
- Students can evaluate described security measures in the context of various threats/attacks;

Module Instructor: Dr. Pejman Najafi

General Information

Course Start Date 1st July 2025, 1st Jan 2026	**Course End Date** 30th Sept 2025, 31st Mar 2026
Fees ∈900 for the full course	**Teaching Format** Mastery: Coding
Total Workload Master's	**Total Workload MBA** 100h (30h/70h) / 4 ECTS
Micro Degree 125h (40h/85h) / 5 ECTS	**Offered** Odd Quarters

Examinations

Quizzes, presentation(s), essay(s)/paper(s), project report(s), written exam.