

Mathematics for Business and Industry, M.Sc.

Practice-oriented. International. Interdisciplinary.

WINTER SEMESTER 2025 / 2026 (30 CP)	PARTIAL DIFFERENTIAL EQUATIONS (IDM)	INTEGRAL TRANSFORMS AND APPLICATIONS (IDM)	ADVANCED COMBINATORIAL OPTIMIZATION (IDM)	STATISTICAL LEARNING IN ACTUARIAL SCIENCES (APM)	COMPUTER VISION (APM)	NEURAL NETWORKS: THEORY AND APPLICATIONS (APM)	MODERN PROJECT MANAGEMENT (MM)
SUMMER SEMESTER 2026 (31 CP)	NUMERICAL PARTIAL DIFFERENTIAL EQUATIONS (IDM)	NONLINEAR OPTIMIZATION (IDM)	MATHEMATICAL METHODS FOR DATA SCIENCE (IDM)	REINSURANCE PRICING (APM)	ADVANCED ROBOTICS (APM)	GENERATIVE NEURAL NETWORKS (APM)	PROJECT (MM)
WINTER SEMESTER 2026 / 2027 (29 CP)	MASTER THESIS WITH PRESENTATION (MM)						ADVANCED SEMINAR (MM)

ALL COURSES TAUGHT IN ENGLISH

- Solid FOUNDATION IN ADVANCED MATHEMATICS through **IN-DEPTH MODULES** (IDM)
- Strong focus on REAL-WORLD APPLICATIONS via **APPLICATION MODULES** (APM) in ACTUARIAL SCIENCES, ARTIFICIAL INTELLIGENCE, and INFORMATION TECHNOLOGY
- DEEPEN YOUR EXPERTISE and DIVE INTO CUTTING-EDGE TOPICS with **ADDITIONAL APPLICATION MODULES** like POST-QUANTUM CRYPTOGRAPHY, PUBLIC-KEY CRYPTOGRAPHY, CODING THEORY, STATISTICAL INFERENCE, and FLUID MECHANICS
- Boost your INTERDISCIPLINARY PROFILE with selected **APPLICATION MODULES IN COMPUTER SCIENCE** – including SECURE PROGRAMMING, MODERN DATABASE CONCEPTS, MODELLING AND VERIFICATION, ADVANCED TOPICS IN NLP
- OPTIONAL: complete 1 OR 2 INDIVIDUAL **RESEARCH PROJECTS** in place of selected modules – ideal for deep dives into SPECIALIZED OR PRACTICE-DRIVEN TOPICS
- **MANDATORY MODULES** (MM): MODERN PROJECT MANAGEMENT, ADVANCED SEMINAR, PROJECT – preparing for TEAM-BASED and INDEPENDENT WORK