

Module Manual

Bachelor IBE

Module name	Mathematics
Responsible instructor	M. Sc. Petra Clauß
Learning objectives	Students will be able to, - understand the approaches of basic analysis - interpret and solve economic problems mathematically, - apply basic mathematical solution approaches to practical examples, - solve numerous exercise problems independently, - evaluate economic issues using mathematically calculated results.
Module content	1 Equations and Inequalities 1.1 Algebraic equations 1.2 Solvable transcendental equations 1.3 Inequalities 2 Matrices and vectors 2.1 Basics 2.2 Solve linear systems of equations 3 Differential calculus 3.1 Rules for differentiation 3.2 Curve discussion 3.3 Extreme value calculation 3.4 Applied extreme value tasks
Teaching/learning methods	- Lectures - Supervised exercises - Self-study
Prerequisites	None
Literature/multimedia teaching and learning programmes	Mavron, V. C. and Phillips T., Elements of Mathematics for Economics and Finance, Springer, 2023
Teaching letter author	not necessary
Applicability	This module is particularly closely related to the following modules of the same degree program: - Statistics - Microeconomic This module is also useful for other business-oriented courses at Schmalkalden University of Applied Sciences.
Workload/ Total workload	Total workload: 150 hours, thereof: 1) synchronous teaching: 60 (classroom study) 2) asynchronous teaching: 90, thereof: - preparation for the course (especially literature study): 20 - follow-up of the course: 20 - preparation of the exercises: 25 - preparation of the exam: 25
ECTS and weighting of the grade in the overall grade	5 ECTS-Punkte; Course: International Business and Economics: 5/180
Performance assessment	Exam (60 Minutes (100%))
Semester	1. Semester
Frequency	each academic year
Duration	one Semester
Type of course (compulsory, elective, etc.)	Compulsory module
Remarks	