

Grundlagenmodul
Master BWL - Math Refresher (14202462)
Summer Semester 2025

1. Content and organisation

This course is part of the *Grundlagenmodul* for Master-students in their first semester. It is a compact course, which is intended to refresh the knowledge of fundamental mathematical concepts. The topics covered in this refresher course are likely to include most mathematical concepts you will come across during your studies in the next two years. If you observe that some of the material is not known to you, please be advised to work through the relevant chapters in one of the sources provided or any other suitable textbook.

The course is taught alternately by Axel Adam-Müller (generally in the winter semester) and myself (usually in the summer semester). To ensure comparability of the content, we share material.

The course covers the following topics:

1. Introductory Topics I: Algebra and Equations
- (2. Introductory Topics II: Miscellaneous)
3. Function of One Variable
4. Differentiation
5. Single-Variable Optimisation
6. Functions of Many Variables
7. Multivariable Optimisation
8. Constrained Optimisation
- (9. Matrix Algebra)
10. Comparative Statics

The slides, which cover the entire material and can be used for self-study, as well as all other relevant files, are made available in Stud.IP.

The course consists of two parts:

1. Four live lectures in which I present selected parts of the material covered in the slides.
2. Two question and answer (Q & A) sessions, in which we recapitulate selected exercises. Moreover, students' questions will be answered. Dr. Sumit Deole will be in charge of the Q & A sessions (deole@uni-trier.de).

Please be reminded that all the material we provide you with is copyrighted and that you are not permitted to share or distribute it in any way or form unless you are given explicit permission.

You are advised to register in PORTA for the *Grundlagenmodul* since the course will be organised via Stud.IP. You will automatically be registered for a course in Stud.IP about a day after you have registered via PORTA.

If you have any questions, please do not hesitate to contact me (goerke@uni-trier.de).

2. Schedule

Thursday,	17.04.2025: 08.30 – 11.45, C 502,	Goerke	Lectures 1 & 2
Thursday,	24.04.2025: 08.30 – 10.00, C 502,	Goerke,	Lecture 3
Thursday,	24.04.2025: 10.15 – 11.45, C 502,	Deole,	Q & A 1
Friday,	25.04.2025: 08.30 – 10.00, C 22,	Goerke,	Lecture 4
Friday,	25.04.2025: 10.15 – 11.45, C 22,	Deole	Q & A 2

3. Formalities and further information

The entire course will take place in English.

There will be a joint exam for all courses making up the *Grundlagenmodul* at the end of the summer semester. Details will be provided as soon as they are available.