

Mathematics for Master Students

A voluntary refresher for incoming KLU M.Sc. students

Welcome! This is a compact mathematics tutorial accompanying the M.Sc. programmes at [Kühne Logistics University](#). Your KLU courses assume you can read and use mathematics fluently: this tutorial refreshes exactly the topics that appear across your first- and second-semester courses, so you can follow them without the mathematics getting in the way.

The tutorial is **voluntary** and **not graded**. Nobody tracks your answers or your progress. The only goal is to make the mathematics in your degree courses feel familiar again.

How It Works

- **Six sessions of 90 minutes**, plus one **voluntary mock exam** at the end.
- Each session is taught **in class** by [Tobias Vlček](#).
- Between sessions, you work through **homework tasks** at your own pace. Every session starts with a short recap and your questions.
- Every session comes with **four materials**: the lecture, a set of homework tasks with worked solutions, a short self-test quiz, and a compact cheatsheet.

Tip

Ask any question you have, no matter how simple it may seem. That is exactly what this tutorial is for. Bring your questions to the start of each session.

Session Materials

Dates, times and rooms are on the [Syllabus](#) page. Each row links the lecture page, homework tasks, self-test quiz, and cheatsheet for that session.

#	Topic	Lecture	Tasks	Self-Test	Cheatsheet
1	Notation & Logic	Class	Tasks	Quiz	Sheet
2	Sets	Class	Tasks	Quiz	Sheet
3	Functions	Class	Tasks	Quiz	Sheet
4	Differen- tiation	Class	Tasks	Quiz	Sheet
5	Single Variable	Class	Tasks	Quiz	Sheet

#	Topic	Lecture	Tasks	Self-Test	Cheatsheet
	Optimization				
6	Systems of Linear Equations	Class	Tasks	Quiz	Sheet

To round things off, there is a voluntary **Mock Exam**: an interactive self-test covering all six sessions, which we work through together in the final session.

Need a Hand?

A tutorial chatbot, the **Math Helper**, is available throughout this website. It is set up to guide your thinking with hints rather than hand you finished solutions (a study partner you can reach any time between sessions).

AI Policy

Tutorial chatbot. The Math Helper above is the tutorial's sanctioned AI: it runs on EU-hosted infrastructure (Mistral models, servers in Germany), and your conversations are not used to train models. Details are on the [privacy page](#).

External AI tools. You may use external AI tools (e.g., ChatGPT, Claude, Mistral, Gemini). You are responsible for every step you rely on: understand it rather than copy it, since relying on AI to solve tasks for you weakens your preparation. Note that large language models are pattern-based rather than rule-based, so they are better at explaining concepts than at producing reliable step-by-step solutions to mathematical tasks.

Your degree exams. In the examination itself, AI tools are not permitted unless your examination regulations or the exam instructions explicitly say otherwise.

Getting Started

- New here? Skim the [Syllabus](#) to see the arc of the six sessions.
- Looking for textbooks and self-study resources? See the [Literature](#) page.
- Practical questions about attendance, grades, or missed sessions? The [FAQ](#) has short, honest answers.

If you have any questions, contact Tobias Vlček at vlcek@beyondsimulations.com.