

170 021 Numerical Methods 1

Exercise Mode

ST 2024

Goal: You will become familiar with numerical methods for technical-scientific calculations.

We use the MATLAB computing and programming environment as a working tool and cover the following topics: Drawing functions, visualizing data, solving systems of equations, calculating with vectors and matrices, interpolation, approximation, regression, Fourier transform, differential equations. However, you can also use Python or other general-purpose programming languages.

MATLAB - Campus licence: If you are using MATLAB (the course was designed in this way), you will need MATLAB on your own computers for these exercises.

Via [MUL-Homepage](#) → [ZID](#) → [Services Students](#) → [Software](#), MATLAB is available for Windows or Mac. There you will also find installation instructions.

Procedure: The exercise materials (download via Moodle or institute homepage) contain tasks that are discussed during the exercises and partly solved on the computer. The remaining tasks should be completed by yourself. Your performance on these will contribute to your grade. In two of the exercise sessions there will be tests, see below. Attendance is compulsory in the exercise part. You can be excused twice.

Grading: The assessment for the exercise part is based on two tests and your treatment of the weekly exercises. You can achieve a maximum of 50 points for the tests (1. test: 20, 2. test: 30). Working out the exercise examples will bring you up to 10 points.

To pass the course you need at least 30 points from the Exercise part, of which 10 at the second test are needed. The examination over the whole course (focus on lecture part) delivers 40 points.

Grading key: At least 10 points from the second test, 30 from the exercise part, a positive result in the written/oral examination over the whole course and altogether at least 50 points are required for a positive grade. The key is as follows:

$50 \leq p < 63$ genügend (4), $63 \leq p < 75$ befriedigend (3), $75 \leq p < 88$ gut (2), $88 \leq p \leq 100$ sehr gut (1).

Place and Date: The first test takes place on May 15., 2024, the second in the last exercise session, on June 26., 2024.

The tests take place during the regular exercise times in the presence mode. Further information on the course of the knowledge tests can be obtained in the exercises and via Moodle.

The announcement forum in the Moodle course and MUonline will keep you up to date about mode and dates.

Dates for the overall exams are published regularly on the homepage of the chair on a regular basis (usually 3 per semester).

In the event of a problem (illness, excursion, etc.), please contact your instructor in good time to arrange a suitable solution.