Welcome to the Applied Data Science master’s program!

As the program manager of this program, I want to send you a warm welcome. Me and my colleagues are looking forward to interacting with you in the program’s courses. There will be more detailed information from me and the program’s study counselor during the welcome meeting and during the first weeks of the program.

As for now, I would like to wish you a good start in our program at Gothenburg University, and I hope you will have time during the summer to prepare yourself for the first term, see below.

Best regards

Birgit Grohe, lecturer at CSE, Gothenburg University

Preparation material for the master’s program Applied data science, Gothenburg University

All preparation is voluntary, but highly recommended. The collection of links below are suggestions, nowadays there exist a large amount of good material accessible online.

The program has students from very different backgrounds. Some of you have taken many mathematics or programming courses already, others only a few. Some of you have finished their BSc studies 2 months ago, others many years ago. Thus, we cannot recommend a uniform package of preparation material to all of you. You need to decide yourself what topics you need to go deeper into and what topics you just want to browse through superficially.

The courses during the first term start on a relatively basic level, but progress at high speed through the material and students that are not fluent in basic programming and mathematics (especially linear algebra) will most likely have a very tough time.

Students from previous years report to me that they were very glad they did some preparation, and wished they had done more.

Programming in python

https://docs.python-guide.org/intro/learning/

You may also want to familiarize with utilities frequently used in our data science courses such as Jupyter notebooks and libraries such as Pandas, scikit-learn, NumPy.

Linear algebra

https://www.khanacademy.org/math/precalculus/x9e81a4f98389efdf:vectors
https://www.khanacademy.org/math/precalculus/x9e81a4f98389efdf:matrices
https://www.khanacademy.org/math/linear-algebra

If you feel very confident in both programming and linear algebra, we it can be very useful to recap/learn basics about mathematical statistics (random variables, expectation, variance, probability distributions, conditional probability, confidence interval) and/or discrete mathematics (basic combinatorics, series etc.).