

Practical-oriented track (“P-Profil”) in the Bachelor’s programme in mathematics

In the following, C stands for credits. All in all, 180 C over the course of 6 semesters have to be acquired, so about 30 C per semester. In each semester, other modules of the key competencies or the minor subject should be chosen besides the mathematics courses, to reach this number of approx. 30 C.

Mathematics modules in the semesters 1 and 2:

For all three tracks, these modules are obligatory:

- B.Mat.0011: Analysis I (9 C) (“Differential and Integral Calculus I”)*
- B.Mat.0021: Analysis II (9 C) (“Differential and Integral Calculus II”)
- B.Mat.0012: Analytic Geometry and Linear Algebra I (9 C)
- B.Mat.0022: Analytic Geometry and Linear Algebra II (9 C)

B.Mat.0011 and B.Mat.0012 have to be successfully completed until the end of the fourth semester of study.

Mathematics modules from semester 3:

In the practical-oriented track, the following basic lectures are obligatory:

- B.Mat.1420: Stochastics (9 C)
- B.Mat.1300: Foundations of Numerical Mathematics (9 C) („Numerical Mathematics I“)
- B.Mat.1400: Foundations of Measure and Probability Theory (9 C) („Measure and Probability Theory“)

Additionally, one of the following two modules has to be completed successfully:

- B.Mat.1100: Foundations of Analysis, Geometry and Topology (9 C)
 - o This has to be completed by taking “Differential and Integral Calculus III” or “Complex Analysis”.
- B.Mat.1200: Foundations of Algebra, Geometry and Number Theory (9 C) („Algebra“)

In this profile only the fields of study SP 3 or SP 4 can be chosen.

Mathematics modules from semester 4 on:

- B.Mat.2400: Applied Statistics (9 C) is obligatory.
- A mathematical proseminar or seminar is obligatory.
- Additionally, at least one of the following two modules has to be completed successfully:
 - o B.Mat.2300: Foundations of Numerical Mathematics II (9 C)
 - o B.Mat.2310: Optimisation (9 C)
- 27 C have to be selected from these continuative mathematical modules:
 - o B.Mat.2100: Partial Differential Equations (9 C)
 - o B.Mat.2110: Functional Analysis (9 C)
 - o B.Mat.2120: Complex Analysis (9 C)
 - o B.Mat.2200: Modern Geometry (9 C)
 - o B.Mat.2210: Numbers and Number Theory (9 C)
 - o B.Mat.2300: Foundations of Numerical Mathematics II (9 C)
 - o B.Mat.2310: Optimisation (9 C)
 - o B.Mat.0720: Mathematical Application Software (3 C)
 - o B.Mat.0730: Practical Course in Scientific Computing (9 C)
 - o B.Mat.0740: Practical Course in Stochastics (9 C, 6 SWS)
 - o B.Mat.1310: Methods for Numerical Mathematics (4 C)
 - o B.Mat.3031: Scientific Computing (6 C)
 - o B.Mat.3041: Non-Life Insurance Mathematics (3 C)
 - o B.Mat.3042: Actuarial Mathematics (3 C)
 - o All modules with numbers of the form B.Mat.3XXX

Minor subject (30 C): Please observe these hints: www.uni-goettingen.de/en/482917.html

Schlüsselkompetenzen (18 C):

- One programming course is obligatory, the following is recommended: B.Inf.1801: Programming (5 C)
- One of the following three modules has to be completed successfully:
 - o B.Mat.0970: Internship (8 C)
 - o B.Mat.0730: Practical Course in Scientific Computing (9 C)
 - o B.Mat.0740: Practical Course in Stochastics (9 C)
- To collect a total of 18 C, you have to choose from the following:
www.uni-goettingen.de/en/485026.html or www.uni-goettingen.de/en/192579.html

Bachelor’s thesis (12 C): Only possible in SP3 (Numerical and applied mathematics) or SP 4 (Mathematical stochastic)

* In some cases, the course belonging to the module is in the brackets after the module names.