

List of Courses¹
Master Computational Mathematics
Summer Term 2021

Module Group: “Algebra, Geometry and Cryptography”:

Advanced Commutative Algebra (Dr. Le Long)

Computational Algebraic Geometry (Prof. Dr. Kreuzer)

Cryptography (Prof. Dr. Zumbrägel)

Seminar:

- **NOCAS** (Prof. Dr. Kreuzer)
- **Post-Quantum Cryptography** (Prof. Dr. Zumbrägel)
- **Pure Mathematics** (Prof. Dr. Kaiser, Prof. Dr. Außenhofer)

Module Group: “Mathematical Logic and Discrete Mathematics”:

Model Theory (Prof. Dr. Kaiser)

Efficient Algorithms (Prof. Dr. Rutter)

Graph Visualization (Dr. Puthiyaveedu)

Theory of Randomized Search Heuristics (Prof. Dr. Sudholt)

Seminar:

- **Pure Mathematics** (Prof. Dr. Kaiser, Prof. Dr. Außenhofer)

¹This is an overview and possibly not complete; for details contact the lecturer and Stud.IP.

Module Group: “Analysis, Numerics and Approximation Theory”:

Asymptotic Geometric Analysis & Applications (Prof. Dr. Prochno)

Continued Fractions (Prof. Dr. Sauer)

Fourier and Laplace Transforms (Prof. Dr. Forster-Heinlein)

Functional Analysis (Prof. Dr. Prochno)

Module Group: “Dynamical Systems and Optimization”:

Mathematical Systems Theory (Prof. Dr. Wirth)

Semigroup Theory (Dr. Mironchenko)

Seminar:

- **Dynamical Systems** (Prof. Dr. Wirth)

Module Group: “Stochastics, Statistics”:

Computational Statistics - Regression in \mathbf{R} (PD Dr. Schnurbus)

Computational Statistics - Statistical Learning in \mathbf{R} (PD Dr. Schnurbus)

Paneldatenanalyse (Dr. Fritsch)

Topics in Applied Econometrics (Prof. Dr. Haupt)

Seminar:

- **Applied Statistics** (Prof. Dr. Haupt)
- **Selected Chapters from Stochastics** (Prof. Dr. Müller-Gronbach)

Module Group: “Data Analysis and Data Management and Programming”:

Efficient Algorithms (Prof. Dr. Rutter)

Data Modelling and Data Processing in the Internet of Things (Dr. Käbisch, Prof. Dr. Kosch)

Machine Learning Lab (Prof. Dr. Granitzer)

Multimedia Databases (Prof. Dr. Kosch)

Multimedia Retrieval (Prof. Skopal PhD)

Practical Parallel Programming (Dr. Größlinger)

Module Group: “Applications”:

Quantitative Methoden in Finance (Prof. Dr. Entrop)

Corporate Finance und Kapitalmärkte (Prof. Dr. Entrop)

Marktforschung (Prof. Dr. Totzek)

Practical Course: Advanced Topics in Management Science (Prof. Dr. Otto)