

I Bachelor's programme AM

1 Curriculum AM

Table 1: The first academic year

Study Units		Study load (EC)	Teaching method	Form of assessment
Code	Name			
Module-01: Structures and Models				
202001214	Calculus I & Prooflab I	4 EC	Lec + Tu	W + O
202001325	Linear Structures I	6 EC	Lec + Tu	W
202001326	Project Programming, Modelling and Cultural Differences	5 EC	Lec + P	Pj + P
Module-02: Mathematical Proof Techniques				
202001223	Calculus II	4 EC	Lec + Tu	W
202001329	Analysis I	3 EC	Lec + Tu	W
202001330	Linear Structures II	3 EC	Lec + Tu	W
202001331	Linear Optimization	3 EC	Lec + Tu	W
202001332	Project Prooflab II	2 EC	SS + Tu	O
Module-03: Fields and Electromagnetism				
202001229	Vector Calculus	2 EC	Lec + Tu	W
202001335	Electromagnetics	5 EC	Lec + Tu	W
202001336	Introduction to Programming	1 EC	PR	P
202001337	Analytical Programming	1 EC	PR	P
202001338	Prooflab III	1 EC	Lec + Tu	O
202001339	Presenting a Mathematical Subject	2 EC	PR	Ps
202001340	Project Fields and Electromagnetism	3 EC	Pj	P
Module-04: Signals and Uncertainty				
202001343	Signals & Transforms	5 EC	Lec + Tu	W
202001344	Probability Theory	5 EC	Lec + Tu	W
202001345	Project Signals and Uncertainty	5 EC	Lec + PR	Pj + P
Entire academic year		60 EC		

Table 2: The second academic year

Study Units		Study load (EC)	Teaching method	Form of assessment
Code	Name			
Module-05: Statistics and Analysis				
202001348	Mathematical Statistics	6 EC	Lec + Tu	W
202001349	Project Statistics	2 EC	Lec + PR	Pr
202001350	Analysis II	5 EC	Lec + Tu	W
202001351	Prooflab Revisited: Diversity in Cultures	2 EC	Lec	Pj + Ps
Module-06: Dynamical Systems				
202001354	Ordinary Differential Equations	4 EC	Lec + Tu	W
202001355	Systems Theory	4 EC	Lec + Tu	W
202001356	Numerical Mathematics	4 EC	Lec + PR	W + P
202001357	Project Dynamical Systems	3 EC	PR	Pj
Module-07: Discrete Structures & Efficient Algorithms				
202001360	Algorithmic Discrete Mathematics	5 EC	Lec + Tu	W
202001361	Languages & Machines	3.5 EC	Lec + Tu	W
202001362	Algebra	3.5 EC	Lec + Tu	W
202001363	Implementation Project on Graph Isomorphism	3 EC	PR	Pj
Module-08: Modelling & Analysis of Stochastic Processes for Math				
202001366	Stochastic Models	5 EC	Lec + Tu	W
202001367	Project Stochastic Models	1.5 EC	PR	Pj
202001368	Markov Chains	2.5 EC	Lec + Tu	W
202001369	Project Stochastic Simulation	4 EC	PR	Pj + P
202001370	Multidisciplinary Project	2 EC	PR	Pj
Entire academic year		60 EC		

Table 3: The third academic year

Study Units		Study load (EC)	Teaching method	Form of assessment
Code	Name			
Minor profile M9 + M10 ^a		30 EC		
Module-11: Electives & Preparation Bachelor's Thesis				
202001373	Reflection on Mathematical Research I ^b	5 EC	Lec	O
Electives: <i>Two of the following four courses must be included in the students' exam programme:</i>				
191520751	Graph Theory	5 EC	Lec + Tu	W
201500372	Mathematical optimization	5 EC	Lec + Tu	W
201700034	Introduction to PDE	5 EC	Lec + Tu	W
202001377	Simultaneous Statistical Inference	5 EC	Lec + Tu	W
Module-12: Finalising Bachelor's Thesis				
201500405	Complex Function Theory	3 EC	Lec + Tu	W
202001380	Reflection on Mathematical Research II ^c	2 EC	Lec	O
202001379	Bachelor's Assignment ^c	10 EC	PR	P + Ps
Entire academic year		60 EC		

^a Sequence requirement 1: students may only participate in these study units once they have gained at least 75 EC.

^b Sequence requirement 2: students may only participate in this study unit once they have passed all the study units of the first eight modules except possibly at most 5 EC in Module-07 and at most 5 EC in Module-08.

^c Sequence requirement 3: students may only participate in these study units once they have passed the study unit *Reflection on Mathematical Research I (202001373)*.