

# MasterMath courses per specialisation, version 12-07-2017

Key:

<b>AS</b> Applied Stochastics
<b>A&amp;T</b> Algebra and Topology
<b>MFoCS</b> Mathematical Foundations of Computing Science
<b>MPhys</b> Mathematical Physics
<b>(n)</b> Course taught in Nijmegen

## Semester 1

Course Name	EC	AS	A&T	MFoCS	MPhys
Advanced Algebraic Geometry: Algebraic Surfaces	8		X		X
Advanced Combinatorics	8	X			X
Advanced Hamiltonian Dynamics	8				X
Algebraic Number Theory	8				
Asymptotic Statistics	8	X			
Complexity Theory (n)	8			X	
Continuous Optimization	6	X			
Cryptology	6		X	X	
Discrete Choice Analysis: Theory and Application	8				
Discrete Optimization	6				
Dynamical Systems	8				X
Forensic probability and Statistics	8	X			
Functional Analysis	8				X
Heuristic Methods in Operations Research	6	X			
Intensive Course Categories and Modules	0				
Intensive reminder on Manifolds	0				
M1: Algebraic Geometry 1	8		X		
M1: Algebraic Topology	8		X		
M1: Commutative Algebra	8		X		
M1: Differential Geometry	8		X		X
M2: Poisson Geometry	8		X		X
Machine Learning Theory	8	X		X	
Mathematical Biology	8				
Measure-theoretic Probability	8	X			
Numerical Linear Algebra	8				
Parallel Algorithms	8			X	
Partial Differential Equations	8				X
Probabilistic and Extremal Combinatorics	8	X	X		
Set Theory	8		X	X	
Systems and Control	6	X			

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## Semester 2

Course Name	EC	AS	A&T	MFoCS	MPhys
Advanced Linear Programming	6	X	X	X	
Algebraic Methods in Combinatorics	8	X			
Algorithmic Geometry of Numbers	8			X	
Algorithms Beyond the Worst Case	8			X	
Applied Finite Elements	6	X	X		
Applied Statistics	6	X			
Asymptotic Statistics	8	X			
Category Theory and Topos Theory and Modules	8		X	X	
Continuum Mechanics	8				X
Descriptive Set Theory <b>(n)</b>	8			X	
Dynamics of Networks	6				
Elliptic Curves	8		X		X
Intro to Numerical Bifurcation Analysis of ODEs and Maps	8				
Inverse Problems in Imaging and Modules	6	X			
M1: Lie Groups and Lie Algebras	8		X		X
M1: Operator Algebras	8		X		X
M1: Riemann Surfaces <b>(n)</b>	8		X		X
M2: Algebraic Geometry 2	8		X		X
M2: Algebraic Topology 2	8		X		
M2: Foundations of General Relativity <b>(n)</b>	8				X
Modular Forms	8		X		X
Nonlinear Waves	8				
Percolation: from Intro to Frontiers of Current Research	8	X			
Quantum Computing	8		X		
Queueing Theory	6	X			
Scheduling	6	X			
Selected Areas in Cryptology	8		X	X	
Semidefinite Optimization	8				
Statistical Theory for High- and Infinite- Dim. Models	8	X			
Stochastic Differential Equations	6	X			
Stochastic Processes	8	X			
Time Series	8	X			
Topology in Physics	8				X