

Module Handbook (<https://modhb.uni-kl.de/>)

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Module-Pool MAT-8x-MPOOL-7

Specialisation Modelling and Scientific Computing (M.Sc.) ([4.5 - 9.0] CP)

Basedata

CP	[4.5 - 9.0] CP
Level	[7] Master (Advanced)
Area of study	[MAT-TEMA] Industrial Mathematics
Lifecycle-State	[NORM] Active

Modules in the Pool

Number	Name	Semester orientation	CP
<i>Area of study Analysis and Stochastics</i>			
MAT-64-11-M-7 (/mhb/modules/MAT-64-11-M-7/)	Stochastic Differential Equations	1 Sem., irreg. WiSe	9.0 CP
MAT-65-11-M-7 (/mhb/modules/MAT-65-11-M-7/)	Methods of Convex Analysis in Image Processing	1 Sem., irreg.	9.0 CP
<i>Area of study Industrial Mathematics</i>			
MAT-80-12B-M-7 (/mhb/modules/MAT-80-12B-M-7/)	Systems and Control Theory: Advanced Topics	1 Sem., irreg.	4.5 CP
MAT-81-11-M-7 (/mhb/modules/MAT-81-11-M-7/)	Numerical Methods for Elliptic and Parabolic PDE	1 Sem., in SuSe	9.0 CP
MAT-81-12-M-7 (/mhb/modules/MAT-81-12-M-7/)	Numerical Methods for Hyperbolic PDE	1 Sem., in WiSe	9.0 CP
MAT-81-13-M-7 (/mhb/modules/MAT-81-13-M-7/)	Nonlinear Partial Differential Equations	1 Sem., irreg.	9.0 CP
MAT-81-14-M-7 (/mhb/modules/MAT-81-14-M-7/)	Computational Fluid Dynamics	1 Sem., irreg.	4.5 CP
MAT-81-15-M-7 (/mhb/modules/MAT-81-15-M-7/)	Asymptotic Analysis	1 Sem., irreg.	9.0 CP

MAT-81-16-M-7 (/mhb/modules/MAT-81-16-M-7/)	Optimization with PDE	1 Sem., irreg.	4.5 CP
MAT-81-18-M-7 (/mhb/modules/MAT-81-18-M-7/)	Mathematical Theory of Fluid Dynamics	1 Sem., irreg.	4.5 CP
MAT-81-19-M-7 (/mhb/modules/MAT-81-19-M-7/)	Scientific Computing in Solid Mechanics	1 Sem., irreg.	4.5 CP
MAT-81-20-M-7 (/mhb/modules/MAT-81-20-M-7/)	PDE based Multiscale Problems and Numerical Approaches for their Solution	1 Sem., irreg.	4.5 CP
MAT-81-26-M-7 (/mhb/modules/MAT-81-26-M-7/)	Computational Flexible Multibody Dynamics	1 Sem., irreg.	9.0 CP
MAT-81-27-M-7 (/mhb/modules/MAT-81-27-M-7/)	Control of Mechanical Multibody Systems	1 Sem., irreg.	4.5 CP
MAT-81-29-M-7 (/mhb/modules/MAT-81-29-M-7/)	Dynamics of Mechanical Multibody Systems	1 Sem., irreg.	4.5 CP
MAT-81-31-M-7 (/mhb/modules/MAT-81-31-M-7/)	Theory of Hyperbolic Conservation Laws	1 Sem., irreg.	4.5 CP
MAT-81-33-M-7 (/mhb/modules/MAT-81-33-M-7/)	Optimal Control of ODEs and DAEs	1 Sem., irreg.	4.5 CP
MAT-81-34-M-7 (/mhb/modules/MAT-81-34-M-7/)	Mathematical Methods for Interacting Particle Systems	1 Sem., irreg.	4.5 CP
MAT-81-35-M-7 (/mhb/modules/MAT-81-35-M-7/)	Mathematical Models for Semiconductor Devices	1 Sem., irreg.	4.5 CP
MAT-81-36-M-7 (/mhb/modules/MAT-81-36-M-7/)	Mathematical Analysis of Linear PDEs	1 Sem., irreg.	9.0 CP
MAT-81-37-M-7 (/mhb/modules/MAT-81-37-M-7/)	High-Order Methods for Hyperbolic Equations	1 Sem., irreg.	4.5 CP
MAT-81-38-M-7 (/mhb/modules/MAT-81-38-M-7/)	Uncertainty Quantification	1 Sem., irreg.	4.5 CP
MAT-81-39-M-7 (/mhb/modules/MAT-81-39-M-7/)	Model Order Reduction for Large Scale Systems	1 Sem., irreg.	4.5 CP
MAT-82-11-M-7 (/mhb/modules/MAT-82-11-M-7/)	Numerical Methods in Control Theory	1 Sem., irreg.	9.0 CP
MAT-82-15-M-7 (/mhb/modules/MAT-82-15-M-7/)	Nonlinear Control Theory	1 Sem., irreg.	9.0 CP
MAT-82-16-M-7 (/mhb/modules/MAT-82-16-M-7/)	Infinite Dimensional Systems and Control Theory	1 Sem., irreg.	4.5 CP
MAT-84-11-M-7 (/mhb/modules/MAT-84-11-M-7/)	Biomathematics	1 Sem., irreg.	9.0 CP
MAT-84-13-M-7 (/mhb/modules/MAT-84-13-M-7/)	Traveling Waves	1 Sem., irreg.	4.5 CP
MAT-84-14-M-7 (/mhb/modules/MAT-84-14-M-7/)	Reaction-Diffusion Equations with Applications to Biology and Medicine	1 Sem., irreg.	4.5 CP

References to Module Pool [MAT-8x-MPOOL-7]

Course of Study	Section	Choice/Obligation
[MAT-88.105-SG] M.Sc. Mathematics (/mhb/FB-MAT/cos-538/)	Specialisation	[WP] Compulsory Elective
[MAT-88.706-SG] M.Sc. Mathematics International (/mhb/FB-MAT/cos-553/)	Specialisation	[WP] Compulsory Elective
[MAT-88.118-SG] M.Sc. Industrial Mathematics (/mhb/FB-MAT/cos-539/)	Specialisation	[WP] Compulsory Elective