

Masterstudiengang Computer Aided Conception and Production in Mechanical Engineering an der RWTH

Production

Compulsory Courses											
Modulverantwortliche	Dozenten	Module	CP	V	Ü/L	Σ SWS	Sommer / Winter	Σ CP	Σ SWS	Σ CP	Σ SWS
Jeschke, S.	Jeschke, S.	Advanced Software Engineering	5	2	2	4	w	5	4	54	41
Schröder	Schröder	Computational Fluid Dynamics I	4	2	1	3	s	7	5		
Schröder	Schröder	Computational Fluid Dynamics II	3	1	1	2	w				
Itskov	Itskov	Continuum Mechanics	5	2	2	4	s	5	4		
Itskov	Itskov	Finite Element Methods for Engineers	5	2	2	4	w	5	4		
Klocke	Klocke	Modelling and Simulation in Manufacturing Technology	5	2	1	3	w	5	3		
Corves	Corves	Multibody Dynamics	5	2	2	4	s	5	4		
Ban	Ban	Numerical Methods in Mechanical Engineering	7	3	2	5	w	7	5		
Schuh	Schuh	Production Management A	5	2	2	4	w	5	4		
Schmitt	Schmitt	Quality Management	5	2	2	4	w	5	4		
N.N.	N.N.	Simulation of Discrete Event Systems	5	2	2	4	w	5	4		

Elective Courses											
Modulverantwortliche	Dozenten	Module	CP	V	Ü/L	Σ SWS	Sommer / Winter	Σ CP	Σ SWS	Σ CP	Σ SWS
Markert / Sauer	Sauer	Computational Modeling of Membranes and Shells	5	2	1	3	s	5	3	22	*
Sauer	Sauer	Computational Multiphysics	5	1	2	3	w	5	3		
Abel	Abel	Control Engineering	2	1	1	2	w	2	2		
Schröder	Schröder	Finite Element Method in Lightweight Design	5	2	1	3	s	5	3		
N.N.	N.N.	Industrial Engineering	5	2	2	4	w	5	4		
Brecher	Brecher	Machine Tools	5	2	2	4	w	5	4		
Klocke	Klocke	Manufacturing Technology I	5	2	2	4	w	5	4		
Klocke	Klocke	Manufacturing Technology II	5	2	2	4	s	5	4		
Itskov	Itskov	Mechanics of soft engineering materials: rubbers, textiles and non-crimp fabrics	3	2	0	2	s	3	2		
Brecher	Brecher	Mechatronics and control techniques for production plants	6	2	2	4	w	6	4		
Bührig-Polaczek	Bührig-Polaczek	Micro- and Macrosimulation of Casting Processes	4	2	1	3	w	4	3		
Schulz	Schulz	Modelling, Model Reduction and Simulation in Lasers Processing	5	2	2	4	s	5	4		
Itskov	Itskov	Practical Introduction to FEM-Software I	3	1	2	3	w	3	3		
Schmitt	Schmitt	Production Metrology	5	2	2	4	s	5	4		
Heider / Markert	Heider / Markert	Reliable Simulation in the Mechanics of Materials and Structures	6	2	2	4	s	6	4		
Itskov	Itskov	Practical Introduction to FEM-Software II	3	1	2	3	s				
Reisgen	Reisgen	Welding and Joining Technologies	5	2	2	4	s	8	7		

* The total amount of weekly contact hours (SWS) depends on the modules selected.

Conception of Machines

Compulsory Courses											
Modulverantwortliche	Dozenten	Module	Σ CP	V	Ü/L	Σ SWS	Sommer / Winter	Σ CP	Σ SWS	Σ CP	Σ SWS
Jeschke, S.	Jeschke, S.	Advanced Software Engineering	5	2	2	4	w	5	4	56	36
Schröder	Schröder	Computational Fluid Dynamics I	4	2	1	3	s	7	5		
Schröder	Schröder	Computational Fluid Dynamics II	3	1	1	2	w				
Itskov	Itskov	Continuum Mechanics	5	2	2	4	s	5	3		
Hachemi	Hachemi	Failure of Structures and Structural Elements	5	2	1	3	s	5	3		
Itskov	Itskov	Finite Element Methods for Engineers	5	2	2	4	w	5	2		
Feldhusen	Feldhusen	Machine Design Process and Practical Applications of Computer-Aided Engineering Tools	7	2	3	5	w	7	2		
Corves	Corves	Multibody Dynamics	5	2	2	4	s	5	4		
Schmidt	Schmidt	Nonlinear Structural Mechanics	5	2	2	4	s	5	4		
Ban	Ban	Numerical Methods in Mechanical Engineering	7	3	2	5	w	7	5		
N.N.	N.N.	Simulation of Discrete Event Systems	5	2	2	4	w	5	4		

Elective Courses											
Modulverantwortliche	Dozenten	Module	Σ CP	V	Ü/L	Σ SWS	Sommer / Winter	Σ CP	Σ SWS	Σ CP	Σ SWS
Schröder	Schröder	Finite Element Method in Lightweight Design	5	2	1	3	s	5	3	20	*
Schröder	Schröder	Fundamentals of Lightweight Design	4	2	1	3	w	4	3		
Markert	Markert/Jenkouk	Mechanics of Forming Processes	5	2	2	4	w	6	4		
Brecher	Brecher	Mechatronics and control techniques for production plants	6	2	2	4	w	6	4		
Bührig-Polaczek	Bührig-Polaczek	Micro- and Macrosimulation of Casting Processes	4	2	1	3	w	4	3		
Schulz	Schulz	Modelling, Model Reduction and Simulation in Lasers Processing	5	2	2	4	s	5	4		
Markert	Markert	Molecular Mechanics and Multiscale Modelling of Materials	5	2	2	4	w	5	4		
Itskov	Itskov	Practical Introduction to FEM-Software I	5	1	2	3	w	5	3		
Itskov	Itskov	Practical Introduction to FEM-Software II	5	1	2	3	s	3	3		
Heider / Markert	Heider / Markert	Reliable Simulation in the Mechanics of Materials and Structures	6	2	2	4	s	6	4		
Markert	Markert	Selected Topics of Inelasticity Theory	6	2	2	4	w	6	4		
Itskov	Itskov	Tensor Algebra and Tensor Analysis for Engineering Students I	5	2	2	4	w	5	4		
Itskov	Itskov	Tensor Algebra and Tensor Analysis	5	2	2	4	s	2	4		
Reisgen	Reisgen	Welding and Joining Technologies	5	2	2	4	s	5	4		

* The total amount of weekly contact hours (SWS) depends on the modules selected.