

CMS-VC-ELV1		Visual Computing Advanced		Responsible Lecturer:		Prof. Dr. Stefan Gumhold				M1104-CMS42	
Katalogmodul (Soll: 12 SWS)		Catalogue Module (Setpoint: 12 SWS Lecture hours per week)									
Eine Lehrveranstaltung des Katalogs CMS-VC-ELV1 kann nicht gewählt werden, wenn diese bereits in einem anderen Pflichtmodul mit wahlpflichtigem Inhalt bzw. in einem Wahlpflichtmodul der Grundlagenausbildung im Masterstudiengang Computational Modeling and Simulation gewählt wurde.											
Please note that any course of the catalogue CMS-VC-ELV1 cannot be selected if it has been already selected for another CMS-module.											
Die Modulnote ergibt sich aus dem nach Semesterwochenstunden (SWS) gewichteten Durchschnitt der Noten der Prüfungsleistungen. The module grade is the average of the grades of the individual examinations, weighted by course effort (SWS, semester-week-hours).											
Nr.	Course title	Faculty	Lecturer	SWS Effort	Language	Semester	Examiner	Examination performance	Duration	Weighting according to SWS	Course number Selma
1	Advanced User Interfaces	INF	Raimund Dachzelt Anke Lehmann	2V/2Ü	German/ English	Summer	Raimund Dachzelt Anke Lehmann	Written Examination	90 min	4	K1104-MA0001
2	Applied Bioinformatics	CMCB	Michael Schroeder	2V/2Ü	English	Summer	Michael Schroeder	Test	45 min	4	K3012-5MB14a
3	Computer- und robotergestützte Chirurgie / Computer and robot-assisted surgery	MED	Stefanie Speidel	2V/2Ü	German/ English	Winter	Stefanie Speidel	Oral Assessment	20 min	4	K9601-110713
4	Computer Vision 1	INF	Björn Andres	2V/2Ü	English	Winter	Björn Andres	Oral Assessment	30 min	4	K1107-MA0009
5	Computer Vision 2	INF	Björn Andres	2 Seminar	English	Summer	Björn Andres	Oral Presentation	30 min	2	K1107-MA0016S
6	Computer Graphics 1	INF	Stefan Gumhold	2V/2Ü	German/ English	Winter	Stefan Gumhold	Written Examination 90 min/Oral Assessment 20 min <=15 Participants		4	K1104-MA0025
7	Computer Graphics 2	INF	Stefan Gumhold	2V/2Ü	English	Summer	Stefan Gumhold	Written Examination 90 min/Oral Assessment 20 min <=15 Participants		4	K1104-MA0005
8	Computer Graphics 3	INF	Stefan Gumhold	2V/2Ü	German/ English	Winter	Stefan Gumhold	Written Examination 90 min/Oral Assessment 20 min <=15 Participants		4	K1104-MA0045
9	Design Patterns and Frameworks	INF	Uwe Aßmann Sebastian Götz	2V/2Ü	English	Winter	Uwe Aßmann Sebastian Götz	Written Examination 90 min/Oral Assessment 15 min < 20 Participants		4	K1104-MA0020
10	Digitization and Data Analytics: Architectures, Methods and Consequences	INF	Wolfgang Nagel Sunna Torge	2V/2Ü	English	Summer	Wolfgang Nagel Sunna Torge	Written Examination 90 min/Oral Assessment 20 min <= 10 Participants		4	K1102-ZIH03
11	Empirical Research Methods in in Human-Computer Interaction	INF	Matthew McGinity	4 SWS Placement	English	Summer	Matthew McGinity	Project Report		4	K1104-MA0008P
12	Foundations of Virtual Reality	INF	Matthew McGinity	2V/2Ü	English	Winter	Matthew McGinity	Written Examination 90 min/Oral Assessment 20 min <= 10 St.		4	K1104-MA0036
13	Frontiers in Immersive Media	INF	Matthew McGinity	2 SWS Seminar + 2 SWS Placement	English	Summer	Matthew McGinity	Seminar Paper		4	K1104-MA0027
14	High Performance Computers and their Programming	INF	Wolfgang Nagel Robert Schöne	2V/2Ü	English	Winter	Wolfgang Nagel Robert Schöne	Written Examination 90 min/Oral Assessment 30 min < 10 Participants		4	K1102-MA0002

15	Highly parallel programming of GPU	INF	Wolfgang Nagel Robert Schöne Guido Juckeland	2V/2Ü	German/ English	Winter	Wolfgang Nagel Robert Schöne	Written Examination	90 min	4	K1102-MA0005
16	Interactive Information Visualization	INF	Raimund Dachzelt Anke Lehmann	2V/2Ü	German/ English	Summer	Raimund Dachzelt Anke Lehmann	Written Examination	90 min	4	K1104-MA0004
17	Interactive Multimedia Information Retrieval	INF	Annett Mitschick	2V/2Ü	German/ English	Winter	Annett Mitschick	Written Examination 90 min/Oral Assessment 20 min <=10 Participants		4	K1104-MA0034
18	Knowledge Graphs	INF	Markus Krötzsch Maximilian Marx	2V/2Ü	English	Winter	Markus Krötzsch	Written Examination 90 min/Oral Assessment 30 min < 10 Participants		4	K1101-MA0024
19	Komplexpraktikum Applied Immersive Media / Practical Course Applied Immersive Media	INF	Matthew McGinity	4 SWS Placement	English	Winter	Matthew McGinity	Project Report		4	K1104-MA0021P
20	Komplexpraktikum Experiments in Immersive Media / Advanced Practical Course Experiments in Immersive Media	INF	Matthew McGinity	4 SWS Placement	English	Summer	Matthew McGinity	Project Report		4	K1104-MA0006P
21	Machine Learning 1	INF	Björn Andres	2V/2Ü	English	Winter	Björn Andres	Written Examination 90 min/Oral Assessment 30 min < 10 Participants		4	K1107-MA0060
22	Machine Learning 2	INF	Björn Andres	2 Seminar	English	Summer	Björn Andres	Oral Presentation	30 min	2	K1107-MA0062S
23	Particle Methods	INF	Ivo Sbalzarini	2V/2Ü	English	Summer	Ivo Sbalzarini	Written Examination 90 min/Oral Assessment 30 min <=10 Participants		4	K1107-MA0006
24	Problem Solving and Search in Artificial Intelligence	INF	Lucía Gómez Álvarez Sarah Alice Gaggl	2V/2Ü	English	Winter	Sebastian Rudolph	Written Examination 90 min/Oral Assessment 30 min < 10 Participants		4	K1107-MA0056
25	Scientific Visualization	INF	Stefan Gumhold	2V/2Ü	English	Summer	Stefan Gumhold	Written Examination 90 min/Oral Assessment 20 min <=15 Participants		4	K1104-MA0032
26	Spatiotemporal Modeling and Simulation of Biological Systems	INF	Ivo Sbalzarini Aryaman Gupta (MPI)	2V/2Ü	English	Summer	Ivo Sbalzarini	Written Examination 120 min/Oral Assessment 30 min <=10 Participants		4	K1107-MA0015
27	Transactional Information Systems	INF	Wolfgang Lehner Dirk Habich	2V/2Ü	English	Winter	Wolfgang Lehner Dirk Habich	Written Examination 90 min/Oral Assessment 30 min < 10 Participants		4	K1106-MA0020
28	User Interface Engineering	INF	Raimund Dachzelt Anke Lehmann	2V/2Ü	German/ English	Winter	Raimund Dachzelt Anke Lehmann	Written Examination 90 min/Oral Assessment 20 min <=10 Participants		4	K1104-MA0024
29	Virtual Worlds	INF	Matthew McGinity	4 SWS Placement	English	Summer	Matthew McGinity	Project Report		4	K1104-MA0026P

CMS-VC-ELV2		Visual Computing Applications			Responsible Lecturer:		Prof. Dr. Stefan Gumhold			M1104-CMS43		
Katalogmodul (Soll: 12 SWS)		Catalogue Module (Setpoint: 12 SWS Lecture hours per week)										
Eine Lehrveranstaltung des Katalogs CMS-VC-ELV2 kann nicht gewählt werden, wenn diese bereits in einem anderen Pflichtmodul mit wahlpflichtigem Inhalt bzw. in einem Wahlpflichtmodul der Grundlagenausbildung im Masterstudiengang Computational Modeling and Simulation gewählt wurde.												
Please note that any course of the catalogue CMS-VC-ELV2 cannot be selected if it has been already selected for another CMS-module.												
Die Modulnote ergibt sich aus dem nach Semesterwochenstunden (SWS) gewichteten Durchschnitt der Noten der Prüfungsleistungen. The module grade is the average of the grades of the individual examinations, weighted by course effort (SWS, semester-week-hours).												
Nr.	Course title	Faculty	Lecturer	SWS Effort	Language	Semester	Examiner	Examination performance	Duration	Weighting according to SWS	Course number Selma	
1	Applied Bioinformatics	CMCB	Michael Schroeder	2V/2Ü	English	Summer	Michael Schroeder	Test	45 min	4	K3012-5MB14a	
2	Advanced User Interfaces	INF	Raimund Dachzelt Anke Lehmann	2V/2Ü	German/ English	Summer	Raimund Dachzelt Anke Lehmann	Written Examination	90 min	4	K1104-MA0001	
3	Automotive Software Engineering	INF	Mirko Conrad (external)	2V	German/ English	Summer	Mirko Conrad (external)			2	K1104-BA0503V	
4	Computer Vision 1	INF	Björn Andres	2V/2Ü	English	Winter	Björn Andres	Oral Assessment	30 min	4	K1107-MA0009	
5	Computer Vision 2	INF	Björn Andres	2 Seminar	English	Summer	Björn Andres	Oral Presentation	30 min	2	K1107-MA0016S	
6	Computer Graphics 1	INF	Stefan Gumhold	2V/2Ü	German/ English	Winter	Stefan Gumhold	Written Examination 90 min/Oral Assessment 20 min <=15 Participants		4	K1104-MA0025	
7	Computer Graphics 2	INF	Stefan Gumhold	2V/2Ü	English	Summer	Stefan Gumhold	Written Examination 90 min/Oral Assessment 20 min <=15 Participants		4	K1104-MA0005	
8	Computer Graphics 3	INF	Stefan Gumhold	2V/2Ü	German/ English	Winter	Stefan Gumhold	Written Examination 90 min/Oral Assessment 20 min <=15 Participants		4	K1104-MA0045	
9	Design Patterns and Frameworks	INF	Uwe Aßmann Sebastian Götz	2V/2Ü	English	Winter	Uwe Aßmann Sebastian Götz	Written Examination 90 min/Oral Assessment 15 min < 20 Participants		4	K1104-MA0020	
10	Digitization and Data Analytics: Architectures, Methods and Consequences	INF	Wolfgang Nagel Sunna Torge	2V/2Ü	English	Summer	Wolfgang Nagel Sunna Torge	Written Examination 90 min/Oral Assessment 20 min <= 10 Participants		4	K1102-ZIH03	
11	Empirical Research Methods in in Human-Computer Interaction	INF	Matthew McGinity	4 SWS Placement	English	Summer	Matthew McGinity	Project Report		4	K1104-MA0008P	
12	Foundations of Virtual Reality	INF	Matthew McGinity	2V/2Ü	English	Winter	Matthew McGinity	Written Examination 90 min/Oral Assessment 20 min <= 10 St.		4	K1104-MA0036	
13	Frontiers in Immersive Media	INF	Matthew McGinity	2 SWS Seminar + 2 SWS Placement	English	Summer	Matthew McGinity	Seminar Paper		4	K1104-MA0027	
14	High Performance Computers and their Programming	INF	Wolfgang Nagel Robert Schöne	2V/2Ü	English	Winter	Wolfgang Nagel Robert Schöne	Written Examination 90 min/Oral Assessment 30 min < 10 Participants		4	K1102-MA0002	

15	Highly parallel programming of GPU	INF	Wolfgang Nagel Robert Schöne Guido Juckeland (HZDR)	2V/2Ü	German/ English	Winter	Wolfgang Nagel Robert Schöne	Written Examination	90 min	4	K1102-MA0005
16	Interactive Information Visualization	INF	Raimund Dachsel Anke Lehmann	2V/2Ü	German/ English	Summer	Raimund Dachsel Anke Lehmann	Written Examination	90 min	4	K1104-MA0004
17	Interactive Multimedia Information Retrieval	INF	Annett Mitschick	2V/2Ü	German/ English	Winter	Annett Mitschick	Written Examination 90 min/Oral Assessment 20 min <= 10 Participants		4	K1104-MA0034
18	Internet and Web Applications	INF	Alexander Schill	2V/2Ü	English	Summer	Alexander Schill	Written Examination	60 min	4	K1106-MA0003
19	Knowledge Graphs	INF	Markus Krötzsch Maximilian Marx	2V/2Ü	English	Winter	Markus Krötzsch	Written Examination 90 min/Oral Assessment 30 min < 10 Participants		4	K1101-MA0024
20	Komplexpraktikum Experiments in Immersive Media / Advanced Practical Course Experiments in Immersive Media	INF	Matthew McGinity	4 SWS Placement	English	Winter	Matthew McGinity	Project Report		4	K1104-MA0021P
21	Komplexpraktikum Experiments in Immersive Media / Practical Course Experiments in Immersive Media	INF	Matthew McGinity	4 SWS Placement	English	Summer	Matthew McGinity	Project Report		4	K1104-MA0006P
22	Machine Learning 1	INF	Björn Andres	2V/2Ü	English	Winter	Björn Andres	Written Examination 90 min/Oral Assessment 30 min < 10 Participants		4	K1107-MA0060
23	Machine Learning 2	INF	Björn Andres	2 Seminar	English	Summer	Björn Andres	Oral Presentation	30 min	2	K1107-MA0062S
24	Particle Methods	INF	Ivo Sbalzarini	2V/2Ü	English	Summer	Ivo Sbalzarini	Written Examination 90 min/Oral Assessment 30 min <=10 Participants		4	K1107-MA0006
25	Problem Solving and Search in Artificial Intelligence	INF	Lucía Gómez Álvarez Sarah Alice Gaggl	2V/2Ü	English	Winter	Sebastian Rudolph	Written Examination 90 min/Oral Assessment 30 min < 10 Participants		4	K1107-MA0056
26	Scientific Visualization	INF	Stefan Gumhold	2V/2Ü	English	Summer	Stefan Gumhold	Written Examination 90 min/Oral Assessment 20 min <=15 Participants		4	K1104-MA0032
27	Spatiotemporal Modeling and Simulation of Biological Systems	INF	Ivo Sbalzarini	2V/2Ü	English	Summer	Ivo Sbalzarini	Written Examination 120 min/Oral Assessment 30 min <=10 Participants		4	K1107-MA0015
28	Transactional Information Systems	INF	Wolfgang Lehner Dirk Habich	2V/2Ü	English	Winter	Wolfgang Lehner Dirk Habich	Written Examination 90 min/Oral Assessment 30 min < 10 Participants		4	K1106-MA0020
29	User Interface Engineering	INF	Raimund Dachsel Anke Lehmann	2V/2Ü	German/ English	Winter	Raimund Dachsel Anke Lehmann	Written Examination 90 min/Oral Assessment 20 min <= 10 Participants		4	K1104-MA0024
30	Virtual Worlds	INF	Matthew McGinity	4 SWS Placement	English	Summer	Matthew McGinity	Project Report		4	K1104-MA0026P
31	Computer- und robotergestützte Chirurgie / Computer and robot-assisted surgery	MED	Stefanie Speidel	2V/2Ü	German/ English	Winter	Stefanie Speidel	Oral Assessment	20 min	4	K9601-110713
32	Computational Fluid Dynamics	MW	Jochen Fröhlich Jordi Ventosa Molina	2V/2Ü	English	Winter	Jochen Fröhlich	Written Examination 120 min/Oral Assessment 20 min <10 Participants		4	K1302-EX3040

CMS-VC-TEA	Modul Visual Computing Teamproject			Responsible Lecturer:	Prof. Dr. Stefan Gumhold		M1104-CMS441	
Pflichtmodul im Track VC	Compulsory Module for Track VC						PO 2020	
Ein Teamprojekt kann nicht gewählt werden, wenn dieses bereits in einem anderen Pflichtmodul mit wahlpflichtigem Inhalt im Masterstudiengang Computational Modeling and Simulation gewählt wurde.								
Please note that any teamproject cannot be selected if it has been already selected for another CMS-module.								
Name	Faculty	Supervisor	SWS Effort	Language	Semester	Examiner	Examination performance	Course number Selma
Teamproject	chosen freely	chosen freely	8 SWS Project Processing	German/English	Summer	after confirmation by examination board CMS	1. Project Report 70 hours 2. Oral Presentation 30 minutes	
				Project Report will be single weighted. Oral Presentation will be single weighted.				
CMS-VC-TEA	Modul Visual Computing Teamproject			Responsible Lecturer:	Prof. Dr. Stefan Gumhold		M1104-CMS44	
Pflichtmodul im Track VC	Compulsory Module for Track VC						PO 2018	
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Title	Faculty	Supervisor	SWS Effort	Language	Semester	Examiner	Examination performance	Course number Selma
Teamproject	chosen freely	chosen freely	8 SWS Project Processing	German/English	Summer	after confirmation by examination board CMS	1. Project Report 12 Weeks 2. Colloquium 30 minutes	
				Project Report will be weighted twice. Colloquium will be single weighted.				