TUM Informatics Master – Modules offered in SS22 by area
This list is not official, might be incomplete or have errors, use with care!

I created this list by matching modules from TUMonline that will actually be offered with the list of elective modules. I only included lectures (VO) and lectures with integrated exercises (VI). There may be errors: For example, new courses might be missing if they are not yet associated with the correct curriculum on TUMonline.

Below the main table there are modules that are not mentioned above. There are several possible reasons:
- it is a bachelor course that must be taken by some to start the master
- it is a IN course, but only counts towards other degrees
- most importantly: it is actually a real course that counts towards the Informatics master, but it is a new course and not yet mentioned in the main table, or not yet correctly registered in TUM online

Elective Modules of the Area "Algorithms" (ALG):

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2004	Efficient Algorithms and Data Structures II	SS	4V+2Ü	8	EN	THEO
IN0024	Operations Research	SS	3V+2Ü	6	DE	THEO

Elective Modules of the Area "Computer Graphics and Vision" (CGV):

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2354	3D Scanning & Motion Capture	WS/SS	2V+1Ü+1P	6	EN	
IN2228	Computer Vision II: Multiple View Geometry	unreg	4V+2Ü	8	EN	THEO
IN2375	Computer Vision III: Detection, Segmentation, and Tracking	WS	2V+2Ü	6	EN	
IN2392	Machine Learning for 3D Geometry	SS	2V+1Ü+1P	6	EN	

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2390	Advanced Deep Learning for Computer Vision: Visual Computing	WS/SS	2V+3P	8	EN	

Elective Modules of the Area "Databases and Information Systems" (DBI):

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2118	Database Systems on Modern CPU Architectures	SS	3V+2Ü	6	EN	
IN2031	Application and Implementation of Database Systems	SS	3V+2Ü	6	DE	
IN2267	Transaction Systems	SS	3V+2Ü	6	EN	

Elective Modules of the Area "Digital Biology and Digital Medicine" (DBM):

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2286	Image Guided Surgery	SS	2V+2P	6	EN	
IN2022	Computer Aided Medical Procedures II	SS	2V+2Ü	5	EN	
IN2393	Machine Learning for Regulatory Genomics	SS	2V+2P	6	EN	
IN2322	Protein Prediction I for Computer Scientists	SS	4V+2Ü	8	EN	

Elective Modules of the Area "Engineering Software-intensive Systems" (SE):

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2359	Blockchain-based Systems Engineering	unreg	2V+2Ü	5	EN	
IN2084	Advanced Topics of Software Testing	SS	2V+2Ü	5	DE	
IN2394	Requirements Engineering	SS	2V	3	EN	
IN2087	Software Engineering for Business Applications - Master's Course: Web Application Engineering	SS	2V+2Ü	8	EN	

Elective Modules of the Area "Formal Methods and their Applications" (FMA):

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2227	Compiler construction I	SS	2V+2Ü	5	DE/EN	THEO
IN2347	Functional Data Structures	SS	2V+2Ü	5	EN	THEO
IN2049	Logic	SS	4V+2Ü	8	EN	THEO
IN2050	Model Checking	SS	4V+2Ü	8	EN	THEO
IN2052	Petri Nets	unreg	3V+1Ü	5	EN	THEO
IN2040	Virtual Machines	SS	3V+2Ü	6	EN	THEO

ID	Title	Term	Contact Hours	Credits	Language	THEO

Elective Modules of the Area "Machine Learning and Analytics" (MLA):

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2298	Advanced Deep Learning for Physics	SS	4V	6	EN	
IN2346	Introduction to Deep Learning	SS	2V+2Ü	6	EN	

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2395	Legal Data Science and Informatics	WS/SS	4V	6	EN	
IN2323	Machine Learning for Graphs and Sequential Data	SS	2V+2Ü	5	EN	
IN2357	Machine Learning for Computer Vision	WS/SS	2V+2Ü	5	EN	
IN2378	Statistical Foundations of Learning	SS	3V+1Ü	5	EN	THEO
IN2349	Advanced Deep Learning for Robotics	SS	2V+2P	6	EN	
ID	**Title**	**Term**	**Contact Hours**	**Credits**	**Language**	**THEO**
ID	**Title**	**Term**	**Contact Hours**	**Credits**	**Language**	**THEO**

Elective Modules of the Area "Computer Architecture, Computer Networks and Distributed Systems" (RRV):

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN3450	Selected Topics in Computer Architecture, Computer Networks and Distributed Systems	unreg		5	DE/EN	
IN2073	Cloud Computing	WS	2V+1Ü	4	EN	
IN2333	Protocol Design	unreg	4V+2Ü	8	EN	

Elective Modules of the Area "Robotics" (ROB):

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2356	Autonomous Driving	SS	2V	3	EN	
IN2138	Robot Motion Planning	SS	3V+1Ü	5	EN	
IN2305	Cyber-Physical Systems	SS	3V+2Ü	6	EN	
IN2061	Introduction to digital signal processing	SS	3V+3Ü	7	DE/EN	
IN2222	Cognitive Systems	SS	3V+1Ü	5	EN	

Elective Modules of the Area "Security and Privacy" (SP):

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2161	Networks for Monetary Transactions	SS	2V	3	EN	
IN2194	Peer-to-Peer-Systems and Security	SS	3V+2Ü	6	EN	
IN2178	Security Engineering	SS	2V+2Ü	5	EN	
IN2196	Secure mobile systems	SS	2V+1Ü	4	DE	

| IN2362 | Language-based Security | unreg | 2V+2Ü | 5 EN | |

Elective Modules of the Area "Scientific Computing and High Performance Computing" (HPC):

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2345	Algorithms for Uncertainty Quantification	unreg	2V+2Ü	5	EN	THEO
IN2001	Algorithms for Scientific Computing	SS	4V+2Ü	8	EN	THEO
IN2400	Advanced Concepts of Quantum Computing	SS	2V+2Ü	5	EN	THEO
IN2010	Modelling and Simulation	SS	4V+2Ü	8	EN	THEO
IN2147	Parallel Programming	SS	2V+2Ü	5	EN	
IN2388	Tensor Networks	unreg	2V+2Ü	5	EN	THEO

Elective Modules not Assigned to any Area:

ID	Title	Term	Contact Hours	Credits	Language	THEO
IN2111	3D User Interfaces	SS	3V+2Ü	6	EN	
IN2018	Augmented Reality	SS	3V+2Ü	6	EN	
IN2348	Lecture Series: What is digitalization?	SS	2V	2	DE	
IN2241	Social Computing	SS	3V+1Ü	5	DE/EN	
IN2093	eLearning - Techniques and Infrastructures	WS	2V	3	DE/EN	

IN Master Informatics Modules present in TUMonline, but not yet mentioned above:
IN0003   Functional Programming and Verification
IN0006   Introduction to Software Engineering
IN0007   Fundamentals of Algorithms and Data Structures
IN0010   Introduction to Computer Networking and Distributed Systems
IN0011   Introduction to Theory of Computation
IN0018   Discrete Probability Theory
IN0019   Numerical Programming
IN2407   Hardware Security
IN2408   Artificial Intelligence in Medicine II
IN2410   Causality
IN9003   Informatics and LawÜberfachliche Grundlagen,
IN9048   Innovation Generation in The Healthcare Domain

IN modules not associated with Master Informatics and not yet mentioned above:
IN0025   Information Technologies and Society
IN0038   Real-time Computer Graphics
IN0040   Social Gaming
IN2105   Business Process Technologies and Management
IN2137   Doktorandenseminar
IN2141   Scientific Computing II

Modules by Master Areas

IN2149	Gems of Informatics 2
IN2185	BGCE - Research Day
IN2221	Protein Prediction I Advanced
IN2300	Design of Business Simulations
IN2366	Modelling and SimulationFocus Analysis
IN2368	Lecture Series "Games Engineering"
IN2377	Concepts of C++ programming
IN2399	Advanced Bioinformatics
IN3470	Ausgewählte Themen aus dem Bereich Sicherheit und Datenschutz
IN8003	Introduction into Computer Sciencefor non Informatics studies
IN8009	Algorithms and Data StructuresET/IT
IN8012	Engineering Informatics 2BSc Engineering Science
IN8013	Geometric Modelling and VisualizationMSE
IN8015	Systems EngineeringBSc Engineering Science
IN8024	Information Management for Digital Business Models
IN9049	Technology and Law
IN9050	Introduction to Data Protection Law