

Please note: This publication is an English translation of the Examination Regulations (“SPO 2019”) for Media Informatics. Only the German original of these regulations as published in the Official Announcement of RWTH Aachen University (“Amtliche Bekanntmachungen”) is legally binding.

Course of Study-Specific Examination Regulations

for the Master’s course of study

Media Informatics

of RWTH Aachen University

dated 16.07.2019

Examination Regulations Version 2019

On the basis of §§ 2 para. 4, 22, para. 1 p.1 no.3, 64 of the law governing the Universities of the Federal State of North Rhine-Westphalia (Higher Education Act – HEA) in the version of Article 1 of the Future Higher Education Act NRW of September 16, 2014 (GV. NRW p. 547), most recently amended by Article 3 of the Act to Ensure the Accreditation of Courses of Study in North Rhine-Westphalia from October 17, 2017 (GV. NRW p. 806), RWTH Aachen University (RWTH) has issued the following examination regulations:

Table of Contents

I. <u>General Information</u>	3
§ 1 <u>Scope of Application and Academic Degree</u>	3
§ 2 <u>Objectives of the Course of Study and Language Provisions</u>	3
§ 3 <u>Admission Requirements</u>	3
§ 4 <u>Standard Period of Study, Curriculum, Credit Points and Scope of Study</u>	4
§ 5 <u>Obligatory Attendance in Classes</u>	5
§ 6 <u>Examinations and Examination Deadlines</u>	5
§ 7 <u>Types of Examinations</u>	5
§ 8 <u>Assessment and Grading</u>	6
§ 9 <u>Joint Study Programme Commission and Examination Board</u>	6
§ 10 <u>Repeating Examinations or the Master's Thesis, Loss of the Right to Examination</u>	7
§ 11 <u>Cancellation, Non-Attendance, Withdrawal, Deception, Non-Compliance</u>	7
II. <u>Master's Examination and Master's Thesis</u>	8
§ 12 <u>Type and Scope of the Master's Examination</u>	8
§ 13 <u>Master's Thesis</u>	8
§ 14 <u>Acceptance and Assessment of the Master's Thesis</u>	8
III. <u>Final Provisions</u>	9
§ 15 <u>Viewing of Examination Files</u>	9
§ 16 <u>Coming into Effect, Publication and Transitional Provisions</u>	9

Appendices:

1. Curriculum
2. Guidelines for internships/practical professional experiences
3. Equivalence List

I. General Information

§ 1

Scope of Application and Academic Degree

- (1) These examination regulations apply to the joined Master's course of study Media Informatics at RWTH and University of Bonn (hereinafter referred to only as Uni Bonn). It only applies in conjunction with the General Examination Regulations (GER) in the relevant applicable version, and includes additional course of study-specific regulations. In cases of doubt, the regulations of the general examination regulations take priority.
- (2) For the successful completion of the Master's course, the Faculty of Mathematics, Computer Science and Natural Sciences awards the academic degree of Master of Science, RWTH Aachen University (M. Sc. RWTH).

§ 2

Objectives of the Course of Study and Language Provisions

- (1) This is a Master's course of study according to § 2 para. 3 GER (Master's course building upon a Bachelor's course in Computer Science).
- (2) The overall educational objectives are set out in § 2 para. 1, 3 and 4 GER. For further information and provisions on the objectives of the Bachelor's course of study, please refer to the Appendix 3 of the present examination regulations.
- (3) Teaching takes place in English.
- (4) Examinations may be taken in German or English, in agreement with the examiner in question.

§ 3

Admission Requirements

- (1) Basic requirement for admission is a recognized university degree according to § 3 para. 4 GER.
- (2) To meet the educational prerequisites and successfully complete the Master's course of study, the student applicant must have the necessary competence in the following areas:
 - At least 28 credit points for the area of Applied Computer Science, including:
 - a. min. 8 credit points in Programming,
 - b. min. 8 credit points in Data Structures and Algorithms,
 - c. min. 6 credit points in Databases and Information Systems,
 - d. min. 6 credit points in software engineering.
 - At least 18 credit points for the area of Computer Engineering, including:
 - a. min. 6 credit points in Introduction to Computer Engineering,
 - b. min. 6 credit points in Operating Systems and System Software,
 - c. min. 6 credit points in Data Communication and Security.
 - At least 18 credit points for the area of Theoretical Computer Science, including:
 - a. min. 6 credit points in Formal Systems, Automata, Processes,
 - b. min. 6 credit points in Computability and Complexity,

- c. min. 6 credit points in Mathematical Logic.
- At least 26 credit points for the area of Mathematics, including:
 - a. min. 6 credit points in Discrete Structures,
 - b. min. 8 credit points in Calculus for Computer Science,
 - c. min. 6 credit points in Linear Algebra,
 - d. min. 6 credit points in Introduction to Applied Stochastics.

The proven competences must be comparable to the Bachelor's course of study Computer Science at RWTH.

- (3) In addition, proof of the Graduate Record Examination (GRE) General Test is required at the time of application. In the Quantitative Reasoning (GRE-QR) test field, applicants must be among the 25% best (above 75th percentile) and in the Verbal Reasoning (GRE-VR) test field they must be among the 85% best (above 15th percentile) of a test year. Applicants who are nationals of a member state of the European Union or of the European Economic Area (EEA), as well as German students are exempt from this rule.
- (4) For admission conditional on additional requirements, § 3 para. 6 GER applies. If additional requirements corresponding to more than 22 credit points are required, admission to the Master's course of study is not possible.
- (5) For this Master's course of study, adequate knowledge of the English language must be proven according to § 3 para. 9 GER.
- (6) § 3 para. 12 GER applies for determining whether admission requirements are met.
- (7) General regulations for the recognition of prior examinations are given in § 13 GER.

§ 4

Standard Period of Study, Curriculum Credit Points and Scope of Study

- (1) The standard period of study is four terms (two years) full-time, including preparation of the Master's thesis. The course of study may only be commenced in winter semester.
- (2) The course consists of one compulsory area, four elective areas and two practical labs, of which at least one should be done in cooperation with one of the Fraunhofer Institutes FIT and IAIS participating in the Master's course Media Informatics. A total of 120 credit points are required for successful completion of the program. The Master's examination is composed as follows:

Compulsory Modules		18 – 22 CP
Compulsory Elective Modules: Computer and Communication Technology	At least 78 CP	14 – 22 CP
Compulsory Elective Modules: Multimedia Technology		14 – 26 CP
Compulsory Elective Modules: Multimedia Use and Impact		4 – 16 CP
Compulsory Elective Modules: Practical Labs		16 – 20 CP
Compulsory Elective Modules: Communication Skills		12 CP
Master's Thesis		30 CP
Sum		120 CP

In the case of lecture modules, the assignment to the areas results from the module catalogue.

- (3) The degree course, including the Master's thesis module, comprises 14 to 19 modules. All modules are defined in the module catalogue. The weighting of the examinations with credit points to be taken in the individual modules is carried out according to § 4 para. 4 GER.

§ 5 Obligatory Attendance in Classes

- (1) According to § 5 para. 2 GER, obligatory attendance can only be stipulated in courses of the following type:
1. Tutorials
 2. Seminars
 3. Colloquia
 4. (Practical) Labs
 5. Excursions
- (2) The courses for which attendance is required according to para. 1, are identified as such in the module catalogue.

§ 6 Examinations and Examination Deadlines

- (1) General regulations on examinations and examination periods are included in § 6 GER.
- (2) Provided successful participation in modules or examinations or passing of module components according to § 5 para. 4 GER is stipulated as a precondition for participation in other examinations, this is indicated accordingly in the module catalogue.

§ 7 Types of Examinations

- (1) General regulations on types of examination are included in § 7 GER.
- (2) The duration of a written exam is at least 60 minutes and at most 150 minutes according to § 7 para. 3 GER. In general, the duration of the exam is 60 to 90 minutes for the up to 5 CP, 90 to 120 minutes for up to 6 or 7 CP, and 120 minutes or more for up to 8 or more CP.
- (3) The duration of an oral examination is at least 15 minutes and at most 45 minutes. An oral examination as a group examination is carried out with no more than four candidates.
- (4) The following applies to seminar and term papers in detail: Depending on the topic, the number of pages varies between 5 and 20. The paper is concluded with a presentation.
- (5) The scope of a written assignment is 5 and 40 pages. The preparation time for a written assignment is between one week and three months.
- (6) The scope of written preparation for a presentation is at most 40 pages. The duration of a presentation is at least 10 and at most 60 minutes.
- (7) The following applies to colloquia in particular: The duration of a colloquium is at least 15 minutes and at most 45 minutes.

- (8) The following applies to project work and practical labs in particular: Students should independently apply subject-specific knowledge and methods of conception, implementation and testing of software and hardware systems as well as of experiments and measurements. Usually, the work is done in small groups in order to train the team skills of the students.
- (9) The examiner specifies the duration of the examination and, if applicable, of other modalities of the examination at the start of the course in question.
- (10) Admission to module examinations may be conditional on the successful completion of module components as examination requirements in accordance with § 7 para. 15 GER. This is outlined for the relevant modules in the module catalogue. At the start of term, or by the time of the first course session, the lecturer provides precise criteria regarding possible improvement of grades through the completion of module components, particularly the number and type of bonus-enabling tutorials as well as the mode of correction and assessment.

§ 8

Assessment and Grading

- (1) General regulations for assessing the examinations and the formation of grades are included in § 10 GER.
- (2) If an examination consists of several partial exams, each partial exam must be passed, i.e. be completed with the grade of at least "sufficient" (4.0).
- (3) A module has been passed if all associated partial examinations have been passed with a grade of at least "sufficient" (4.0), and all other credit points or module components have been achieved according to the relevant course of study-specific examination regulations.
- (4) The overall grade is formed taking into account all module grades and the grade of the Master's thesis according to § 10 para. 10 GER.

§ 9

Joint Study Programme Commission and Examination Board

- (1) A joint study programme commission will be established for the study programme.
- (2) The Joint Degree Programme Commission will be composed of:
 1. three professors each from the RWTH and the University of Bonn (a total of six), one of whom must be a member of the Fraunhofer Society,
 2. one member each from the group of scientific employees of the RWTH and the University of Bonn,
 3. a member of the group of students of the programme.
- (3) A professorial member of RWTH shall be appointed as Chair of the Study Programme Commission. The deputy is a professorial member of the University of Bonn.
- (4) The Joint Study Programme Commission coordinates the organisational work of the cooperation partners with regard to the implementation and management of the joint study programme. In particular, it may submit to the Faculty Council concerned recommendations on the courses offered and the teaching content, submit proposals for revisions to the examination regulations, make recommendations on module responsibility and make proposals on the further development and design of the study programme.

- (5) The responsible Examination Board according to § 11 GER is the Master's Examination Board of the Faculty of Mathematics, Computer Science and Natural Sciences of RWTH Aachen.
- (6) At least one member of the Examination Board should be member of the joint study programme commission.

§ 10

Repeating Examinations or the Master's Thesis Loss of the Right to Examination

- (1) General regulations for resit examinations, the Master's thesis, and the loss of the right to examinations are included in § 14 GER.
- (2) Modules that can be freely selected within an area (specialization, occupational field, field of application, minor) from this Master's course of study can be replaced provided this is permitted in the relevant module catalogue. It is not possible to change mandatory modules.

§ 11

Cancellation, Non-Attendance, Withdrawal Deception, Non-Compliance

- (1) General provisions on cancellation, non-attendance, withdrawal, deception or non-compliance are included in § 15 GER.
- (2) The following applies to canceling practical work and seminars: Cancellation is possible up to three weeks after the topic assignment or preliminary meeting. In the case of block courses, however, a cancellation until the first day of the course is possible.

II. Master's Examination and Master's Thesis

§ 12

Type and Scope of the Master's Examination

- (1) The Master's examination consists of
 1. examinations that are to be completed based on the structure of the course of study according to § 4 para. 2 and 3 and detailed in the module catalogue, as well as
 2. the Master's thesis.
- (2) The assignment for the Master's thesis can only be issued if:
 1. one of two compulsory elective modules in the area of Practical Labs has been successfully completed,
 2. all compulsory elective modules in the area of Communication Skills have been successfully completed, and
 3. a total of 54 CP in examinations have been successfully completed.

§ 13

Master's Thesis

- (1) General regulations for the Master's thesis are included in § 17 GER.
- (2) Reference is made to § 17 para. 2 GER with regard to supervision of the Master's thesis. Supervision can also be provided by examiners from the Institute for Computer Science at the University of Bonn and the Fraunhofer Institutes FIT and IAIS.
- (3) The Master's thesis can be written in the English or German language, in agreement with the examiner in question.
- (4) The turnaround time (time frame for completion) for the Master's thesis is usually six months. In justified exceptional cases, the turnaround time can be extended by a maximum of up to six weeks upon application to the Examination Board in accordance with § 17 para. 7 GER. The size of the written thesis should not exceed 80 pages without Annexes.
- (5) The scope of work for execution and written preparation of the Master's thesis corresponds to 30 credit points.

§ 14

Acceptance and Assessment of the Master's Thesis

- (1) General provisions on acceptance and assessment of Master's thesis are included in § 18 GER.
- (2) The Master's thesis is to be submitted on time with three copies to the Central Examination Office. Printed, bound copies must be submitted. Furthermore, the thesis must be submitted as a PDF file on a data carrier.

III. Final Provisions

§ 15 Viewing of Examination Files

Review of exam documents is carried out in accordance with § 22 GER.

§ 16 Coming into Effect, Publication and Transitional Provisions

- (1) These examination regulations are published as an Official Announcement of RWTH Aachen University (“Amtliche Bekanntmachungen”) and come into effect on the day after publication.
- (2) These examination regulations apply to all students who enrolled in the Media Informatics Master’s course of study at RWTH for the first time in or after the winter semester 2019/2020.
- (3) Students who enrolled in the Media Informatics Master’s course of study before the winter semester 2019/2020 may apply to transfer to the present examination regulations. The examination regulations from 08.05.2019 in their currently valid version will apply to students until summer semester 2021 at maximum. After the summer semester 2021 it is mandatory to transfer to the present examination regulations.
- (4) Examination performances completed based on the examination regulations dated 08.05.2019 in their valid version are transferred to the examination performances required by the present examination regulations with the help of the Equivalence List in Appendix 3.

Issued based on the resolutions of the Faculty Council of the Faculty of Mathematics, Computer Science and Natural Sciences dated 10.07.2019.

The Rector
RWTH Aachen University

Aachen,

Univ.-Prof. Dr. rer. nat. Dr. h. c. mult. U.
Rüdiger

Appendix 1:**Curriculum**

Curriculum	Semester	Credit Points
Compulsory Modules		
Introduction to Computer Graphics	1. Semester	6 (or 8)
Designing Interactive Systems	1. Semester	6
Foundations of Data Science	2. Semester	6 (or 8)
		18 – 22
Compulsory Elective Modules: Computer and Communication Technology		
2-4 Compulsory Elective Modules	1.-3. Semester	each 4, 6 or 8
		14 – 22
Compulsory Elective Modules: Multimedia Technology		
3-5 Compulsory Elective Modules	1.-3. Semester	each 4, 6 or 8
		14 – 26
Compulsory Elective Modules: Multimedia Use and Impact		
2-3 Compulsory Elective Modules	1.-3. Semester	each 4, 6 or 8
		4 – 16
Compulsory Elective Modules: Practical Labs		
Practical Lab	2.-3. Semester	6 – 10
Practical Lab Fraunhofer	2.-3. Semester	10
		16 – 20
Compulsory Elective Modules: Communication Skills		
Technical Writing	1. Semester	4
Seminar	2.-3. Semester	4
German Language Course (or additional seminar ⁽¹⁾)	2.-3. Semester	4
		12
Master's thesis		
Master's thesis	4. Semester	30
		30
Sum		120

Remarks:

- (1) Students who have acquired their study qualification at a German-speaking institution or who have learned German as their native language must attend an additional seminar instead of the German Language Course for English-language Master's Courses at the Language Centre of RWTH Aachen University.

Appendix 2:

Objectives of Study Programme

The international Master Programme in Media Informatics at the Bonn-Aachen International Center for Information Technology (B-IT) is offered by RWTH Aachen University and the University of Bonn in co-operation with the Fraunhofer Institutes at Sankt Augustin near Bonn. This interdisciplinary programme will educate the participant to successfully master the novel technical and economic challenges at the crossroads of computer science, data science, next-generation communication systems, and media. The programme is distinguished by its international orientation, its focus on IT competence, and its high level of integration of research and teaching.

The master programme in Media Informatics consists of six main blocks and the Master's thesis: computer and communication technology, multimedia technology, multimedia use and impact, communication skills, practical labs and master's thesis. The first three blocks are focussed on lectures and practice-oriented tutorials/exercises in compulsory and elective area of the mentioned fields. Communication skills address Technical Writing, Foreign Language Skills (for international students: German Language skills), seminars and special courses on subjects such as project management.

The programme is characterised by a significant proportion of research lab courses embedded in both basic and applied research of the participating Fraunhofer Institutes for Applied Information Technology (FIT), and for Intelligent Analysis and Information Systems (IAIS), and with other research and industry partners in the region. The final six months of the programme are dedicated to the master thesis which can be done in co-operation with industry. The course contents is structured according to the ECTS (European Credit Transfer System).

Appendix 3:

Equivalence List

Abbreviation	Area
CM	Compulsory Modules
CCT	Computer and Communication Technology
MMT	Multimedia Technology
MMUI	Multimedia Use and Impact
PL	Practical Labs
CS	Communication Skills

SPO 2005			SPO 2019		
Area	Module	Title	Area	Module	Title
CCT	6010396	Ad-Hoc Networks: Architectures and Protocols	CCT	6010396	Ad-Hoc Networks: Architectures and Protocols
CCT	MI-AdvCrypt	Advanced Cryptography	CCT	KP20903	Die hohe Kunst der Kryptographie
CCT	MI-AdvCSP1	Advanced cryptography: Symmetric primitives	CCT	KP20903	Die hohe Kunst der Kryptographie
CCT	1212673	Advanced Data Models	CCT	1212673	Advanced Data Models
CCT	1215688	Advanced Internet Technology	CCT	1215688	Advanced Internet Technology
MMT	1211912	Advanced Machine Learning	MMT	1211912	Advanced Machine Learning
MMT	1211904	Advanced Methods in Automatic Speech Recognition	MMT	1211904	Advanced Methods in Automatic Speech Recognition
CCT	6010414	Advanced Methods of Cryptography	CCT	6010414	Advanced Methods of Cryptography
CCT	1220136	Advanced Process Mining	CCT	1220136	Advanced Process Mining
MMT	1212684	Advanced Statistical Classification	MMT	1212684	Advanced Statistical Classification
MMT	MI-AdvMH	Advanced Topics in Machine Learning and Human Language Technology	MMT	1212684	Advanced Statistical Classification
CCT	1212326	Algorithmic Game Theory	CCT	1212326	Algorithmic Game Theory
MMT	MI-SigProc	Selected Topics in Signal Processing	MMT	KP20929	Pattern Matching and Machine Learning for Audio Signal Processing
MMT	1215750	Automatic Speech Recognition	MMT	1215750	Automatic Speech Recognition
CCT	MI-BDA	Big Data Analytics	CCT	KP20911	Big Data Analytics
MMT	MI-BBSA	Image Processing, Search, and Analysis	MMT	KP20915	Image Processing
MMUI	1216958	Business Process Intelligence	MMUI	1216958	Business Process Intelligence
CCT	MI-ClassCrypt	Classical Cryptography (Bonn)	CCT	KP20928	Cryptography
CCT	6010457	Communication Protocols	CCT	6010457	Communication Protocols
CCT	6017116	Communication Protocols	CCT	6017116	Communication Protocols
CCT	1212349	Communication Systems Engineering	CCT	1212349	Communication Systems Engineering
CCT	MI-CommEng	Communication Systems Engineering	CCT	1212349	Communication Systems Engineering
CCT	1212311	Computational Differentiation	CCT	1212311	Computational Differentiation
MMT	MI-CG	Computer Graphics	CM	KP20925	Computer Graphics
MMT	1215724	Computer Vision	MMT	1215724	Computer Vision
MMT	1211921	Computer Vision 2	MMT	1211921	Computer Vision 2
CCT	6011250	Cryptography	CCT	6011250	Cryptography
MMUI	1215691	CSCW and Groupware: Concepts and Systems for Computer Supported Cooperative Work	MMUI	1215691	CSCW and Groupware: Concepts and Systems for Computer Supported Cooperative Work
MMUI	1211908	Current Topics in Media Computing and HCI	MMUI	1211908	Current Topics in Media Computing and HCI
MMT	MI-CTMCHCI	Current Topics in Media Computing and Human Computer Interaction	MMT	1211908	Current Topics in Media Computing and HCI
CCT	MI-DCIT	Data Communication and Internet Technology	CCT	MI-DCIT	Data Communication and Internet Technology

MMUI	1215842	Data Driven Medicine - project-oriented, multidisciplinary introduction	MMUI	1215842	Data Driven Medicine - project-oriented, multidisciplinary introduction
CCT	MI-DatScibig	Data Science and Big Data	CCT	KP20926	Data Science and Big Data
MMUI	MI-DIS	Designing Interactive Systems	CM	1215698	Designing Interactive Systems I
MMUI	1215698	Designing Interactive Systems I	MMUI	1215698	Designing Interactive Systems I
MMT	1215699	Designing Interactive Systems II	MMT	1215699	Designing Interactive Systems II
CS	1215734	German Language Course	CS	1215734	German Language Course
CCT	KP20903	The Art of Cryptography	CCT	KP20903	The Art of Cryptography
CCT	MI-ArtCryLat	The Art of Cryptography	CCT	KP20903	The Art of Cryptography
MMT	MI-ArtCrypt2	The Art of Cryptography	CCT	KP20903	The Art of Cryptography
MMT	6010452	DSP Design Methodologies and Tools	MMT	6010452	DSP Design Methodologies and Tools
CCT	1212350	Dynamic Systems for Computer Scientist	CCT	1212350	Dynamic Systems for Computer Scientist
MMUI	1212683	eBusiness - Applications, Architecture and Standards	MMUI	1212683	eBusiness - Applications, Architecture and Standards
MMT	MI-ViRe	Virtual Reality	MMT	1211909	Virtual Reality
CCT	1220996	Introduction to Numerical Methods and Software	CCT	1220996	Introduction to Numerical Methods and Software
CCT	1215690	Embedded Systems	CCT	1215690	Embedded Systems
CCT	MI-ECC	Elliptic Curve Cryptography	CCT	KP20903	The Art of Cryptography
MMUI	1215712	Entrepreneurship and New Media	MMUI	1215712	Entrepreneurship and New Media
MMT	1212688	Advanced Topics of Virtual Reality	MMT	1212688	Advanced Topics of Virtual Reality
MMT	1212692	Advanced Techniques in Physically-Based Animation	MMT	1212692	Advanced Techniques in Physically-Based Animation
CCT	1212353	Functional safety and system dependability	CCT	1212353	Functional safety and system dependability
MMT	1215696	Geometry Processing	MMT	1215696	Geometry Processing
MMT	MI-ASV	Foundations of Audio Signal Processing	MMT	KP20924	Foundations of Audio Signal Processing
MMT	1212310	Computer Graphics	CM	1212310	Computer Graphics
CCT	KP20904	Foundations of Data Science	CM	KP20904	Foundations of Data Science
MMUI	1212687	HCI Design Patterns	MMUI	1212687	HCI Design Patterns
MMT	KP20905	Humanoid Robotics	MMT	KP20905	Humanoid Robotics
CCT	1215692	Implementation of Databases	CCT	1215692	Implementation of Databases
CCT	MI-ILADMW	Intelligent Learning and Analysis Systems: Data Mining & Knowledge Discovery	CCT	KP20927	Intelligent Learning and Analysis Systems: Data Mining & Knowledge Discovery
MMT	KP20914	Intelligent Learning and Analysis Systems: Machine Learning	MMT	KP20914	Intelligent Learning and Analysis Systems: Machine Learning
CCT	1211903	Introduction to Bioinformatics	CCT	1211903	Introduction to Bioinformatics
CCT	1216861	Introduction to Data Science	CM	1216861	Introduction to Data Science
MMT	1215681	iOS Application Development	MMT	1215681	iOS Application Development
CCT	1211901	IT-Security 1 - Cryptographic Basics and Network Security	CCT	1211901	IT-Security 1 - Cryptographic Basics and Network Security
CCT	1211900	IT-Security 2 - Computer Security	CCT	1211900	IT-Security 2 - Computer Security
MMT	MI-KICS	Game AI	MMT	KP20913	Game AI
CCT	KP20912	Knowledge Graph Analysis	CCT	KP20912	Knowledge Graph Analysis
CCT	MI-Koop	Cooperative Work Environments	CCT	1215691	CSCW and Groupware: Concepts and Systems for Computer Supported Cooperative Work
CCT	MI-Krypt	Cryptography	CCT	KP20928	Cryptography
CCT	1215694	Artificial Intelligence	CCT	1215694	Artificial Intelligence
MMUI	1215751	Learning Technologies	MMUI	1215751	Learning Technologies
MMT	1215744	Machine Learning	MMT	1215744	Machine Learning
CCT	1212346	Mobile Internet Technology	CCT	1212346	Mobile Internet Technology
CCT	6010380	Mobile Radio Networks 1	CCT	6010380	Mobile Radio Networks 1
CCT	1215686	Model-Based Software Engineering	CCT	1215686	Model-Based Software Engineering

MMT	6010449	Multimedia Communication Systems 1	MMT	6010449	Multimedia Communication Systems 1
MMT	6017160	Multimedia Signal Coding	MMT	6017160	Multimedia Signal Coding
MMT	KP20906	Pattern Recognition (I)	MMT	KP20906	Pattern Recognition (I)
MMT	KP20908	Pattern Recognition (II)	MMT	KP20908	Pattern Recognition (II)
CCT	MI-O-OSC	Object Oriented Software Construction	CCT	1212354	Object Oriented Software Construction
CCT	1212354	Object Oriented Software Construction	CCT	1212354	Object Oriented Software Construction
CCT	1212645	Online Algorithms	CCT	1212645	Online Algorithms
MMT	MI-PattMMSig	Pattern Matching and Machine Learning for Audio Signal Processing	MMT	KP20929	Pattern Matching and Machine Learning for Audio Signal Processing
MMT	1215862	Physically Based Animation	MMT	1215862	Physically Based Animation
PL	MI-Pra	Lab-Work	PL	KP21165	Practical Lab
PL	MI-PraFraun	Lab-Work Fraunhofer Institute	PL	KP20937	Practical Lab Fraunhofer
CCT	6010406	Principles and Architectures of Cognitive Radios	CCT	6010406	Principles and Architectures of Cognitive Radios
MMUI	1211902	Process Management	MMUI	1211902	Process Management
MMT	1215680	Real-time Graphics	MMT	1215680	Real-time Graphics
CCT	1212347	Research Focus Class on Communication Systems	CCT	1212347	Research Focus Class on Communication Systems
CCT	MI-SMC	Security in Mobile Communications	CCT	1212681	Sicherheit in der Mobilkommunikation
MMT	1212675	Semantic Web	MMT	1212675	Semantic Web
CS	1212324	Seminar	CS	1212324	Seminar
CCT	1212681	Security in Mobile Communication	CCT	1212681	Security in Mobile Communication
CCT	1212678	Social Computing	CCT	1212678	Social Computing
MMUI	7016925	Social Data Science	MMUI	7016925	Social Data Science
MMT	7016926	Social Networks	MMT	7016926	Social Networks
CCT	1212355	Software Project Management	CCT	1212355	Software Project Management
MMT	MI-VR2	Selected Topics of Virtual Reality (VR II)	MMT	1212688	Advanced Topics of Virtual Reality
MMUI	MI-SKM	Language, Mind, and Media	MMUI	KP20930	Language, Mind, and Media
MMUI	KP20890	Language, Culture, and Cognition	MMUI	KP20890	Language, Culture, and Cognition
MMT	1215840	Statistical Classification and Machine Learning	MMT	1215840	Statistical Classification and Machine Learning
MMT	1215695	Statistical Methods in Natural Language Processing	MMT	1215695	Statistical Methods in Natural Language Processing
MMT	KP20916	Technical Neural Networks	MMT	KP20916	Technical Neural Networks
CS	MI-TeWr	Technical Writing	CS	KP20932	Technical Writing
MMT	MI-STDW	Semantics Data Web Technologies	MMT	KP20931	Semantics Data Web Technologies
CCT	MI-ArtofCry	The Art of Cryptography	CCT	KP20903	The Art of Cryptography
MMT	1211393	The Logic of Knowledge Bases	MMT	1211393	The Logic of Knowledge Bases
MMT	MI-UstechDes	User Centered Technology Design	MMT	KP20934	User Centered Technology Design
MMT	1211909	Virtual Reality	MMT	1211909	Virtual Reality
MMT	KP20909	Visual Data Analysis	MMT	KP20909	Visual Data Analysis
MMT	7016927	Web Mining	MMT	7016927	Web Mining
MMT	1212359	Web Science	MMT	1212359	Web Science
MMT	MI-SciV	Scientific Visualization	MMT	KP20909	Visual Data Analysis
MMT	1212361	Knowledge Representation	MMT	1212361	Knowledge Representation
CS	MI-ZuMo	Additional Module	CS	KP20938	Additional Seminar