

Study and Examination Plan

MSc Degree in Data Engineering							
Matriculation Fall 2022							
Module Code	Program-Specific Modules	Type	Assessment	Period ¹	Status ²	Semester	CP
Semester 1							
CORE Area							10
MCO003-BigData	Module: Big Data Challenge				m	1	5
MCO003-051003	Big Data Challenge	Lecture	Term paper (Project report)	During semester			
MCO011-DataAnaDE	Module: Data Analytics				m	1	5
MCO011-340131	Data Analytics	Lecture	Written examination	Examination period			
Elective Area							5
- students choose one module from those listed below							
Methods Area							5
MMM014-IntroDataMan	Module: Introduction to Data Management with Python				m	1	5
MMM014-350200	Introduction to Data Management with Python	Lecture/Tutorial	Written examination / Programming assignments	Examination period / During semester			
Discovery Area							5
MRD004-CurTopDE	Module: Current Topics in Data Engineering				m	1	
	Current Topics in Data Engineering	Colloquium	Poster Presentation	During semester			
Career Area							5
MCA006-Commun	Module: Communication and Presentation Skills for Executives				m	1	2.5
MCA006-051464	Communication and Presentation Skills for Executives	Seminar	Oral presentation	During semester			
JTLA-xxx	Module: Language 1				m	1	2.5
	German is the default language. Native German speakers take modules in another offered language.						
JTLA-xxx	Language 1	Seminar	Various	Various	me		
Semester 2							27.5
CORE Area							7.5
MCO013-MachLearn	Module: Machine Learning				m	2	5
MCO013-320372	Machine Learning	Lecture	Written examination	Examination period			
MDSSB-LAW-01	Module: IT Law				m	2	2.5
MDSSB-LAW-01	IT Law	Lecture	Term paper	Examination period			
Elective Area							5
- Students choose a module from those listed below.							
Methods Area							5
- Students choose a module from those listed below.							
Discovery Area							5
MRD005-AdvProj1	Module: Data Engineering Advanced Project I				m	2	5
MRD005-34001	Data Engineering Advanced Project I	Lecture & Seminar	Term paper (Project report)	flexible			
Career Area							5
MCA008-AcaWri	Module: Academic Writing Skills/Intercultural Training				m	2	2.5
MCA008-340231	Academic Writing Skills/Intercultural Training	Lecture	Term Paper	During semester			
JTLA-xxx	Module: Language 2				m	2	2.5
JTLA-xxx	Language 2	Seminar	Various	Various	me		
Semester 3							32.5
CORE Area							12.5
MCA005-DataSecurity	Module: Data Security and Privacy				m	1 or 3	2.5
MCA005-340251	Data Security and Privacy	Lecture	Written examination	Examination period			
MCO014-DataVisImage	Module: Data Visualization and Image Processing				m	3	5
MCO014-340231	Data Visualization and Image Processing	Lecture	Written examination	Examination period			
MCO015-DataAcqSens	Module: Data Acquisition Technologies and Sensor Networks				m	3	5
MCO015-340112	Data Acquisition Technologies and Sensor Networks	Lecture & Lab	Term paper (Project report)	During semester			
Elective Area							5
- Students choose a module from those listed below.							
Methods Area							5
- Students choose a module from those listed below.							
Discovery Area							5
MRD006-AdvProj2	Module: Data Engineering Advanced Project II				m	3	5
MRD006-340002	Data Engineering Advanced Project II	Project work	Term paper (Project report)	flexible			
Career Area							5
MDSSB-EIR-01	Module: Ethics and the Information Revolution				m	3	2.5
MDSSB-EIR-01	The Information Revolution	Seminar	Term paper (Project report)	During semester			2.5
JTLA-xxx	Module: Language 3				m	3	2.5
JTLA-xxx	Language 3	Seminar	Various	Various			
Semester 4							30
Master Thesis							30
MMT003-MasterThesis	Module: Master Thesis MSc DE				m	4	30
MMT003-340003	Master Thesis						
Total CP							120

¹ Each lecture period lasts 14 semester weeks and is followed by reading and examination days. Written examinations are centrally scheduled during weeks 15 and 16. For all other assessment types, the timeframes indicated in the above table stipulate the period during which module work has to be handed in or presented. Specific information on dates of topic announcement as well as submission deadlines is communicated in the syllabus which is made available to the students at the beginning of each semester. Academic dates are published in the university-wide Academic Calendar (see <http://www.jacobs-university.de/academic-calendar>).

² m = mandatory, me = mandatory elective

Elective Area							
Students choose 15 CP of mandatory electives							
Computer Science Track							20
MECS001-StatMod	Module: Principles of Statistical Modeling				me	2	5
MECS001-340101	Principles of Statistical Modeling	Lecture	Project Report	During semester			
MECS002-NetworkTheo	Module: Network Theory				me	1 or 3	5
MECS002-340212	Network Theory	Lecture	Written examination	Examination period			
MCO012-AdvDataBase	Module: Advanced Databases				me	2	5
MCO012-340152	Advanced Databases	Lecture	Written examination	Examination period			2.5
MCO012-340153	Advanced Databases Lab	Lab	Lab project	During semester			2.5
MECS004-ParDisCom	Module: Parallel and Distributed Computing				me	3	5
MECS004-30040	Parallel and Distributed Computing	Lecture	Written examination	Examination period			
Geoinformatics Track							10
MEGI001-GeoInf	Module: Geoinformatics				me	1 or 3	5
MEGI001-210213	Geo-Information Systems	Lecture			m		2.5
MEGI001-210103	Introduction to Earth System Data	Lecture	Term paper	Examination period	m		2.5
MEGI002-GeoInfLab	Module: Geoinformatics Lab				me	2	5
MEGI002-210214	Geoinformatics Lab	Lecture	Term paper	Examination period			
Bio-Informatics Track							15
MEBI001-IntroSysBio	Module: Introduction to Systems Biology				me	2	5
MEBI001-550432	Introduction to Systems Biology	Lecture	Written examination	Examination period			
MDE-BIO-03	Management and Analysis of Biological and Medical Data				me	1 or 3	5
MDE-BIO-03	Management and Analysis of Biological and Medical Data	Seminar	Oral Examination	Examination period			
Business & Supply Chain Engineering Track							10
MESCO01-DataMin	Module: Data Mining				me	2	5
MESCO01-340122	Data Mining	Lecture	Term paper (Project report)	During semester			
MCO008-DataAnaSCM	Module: Data Analytics in Supply Chain Management				me	1 or 3	5
MCO008-051008	Data Analytics in Supply Chain Management	Lecture	Term paper (Project report)	During semester			
Total CP							65

Methods Area							
Students take "Introduction to Data Management with Python" in the first semester and choose 2 modules from the list below in semester 2 and 3.							
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MMM004-ModDynSys	Module: Modeling and Control of Dynamical Systems				me	2	5
MMM004-340103	Modeling and Control of Dynamical Systems	Seminar	Written examination	Examination period			
MMM005-ModSigProc	Module: Modern Signal Processing				me	2	5
MMM005-340153	Modern Signal Processing	Seminar	Oral presentation	During semester			
MMM007-NetBioMed	Module: Network Approaches in Biology and Medicine				me	3	5
MMM007-550443	Network Approaches in Biology and Medicine	Lecture	Oral presentation	During semester			
MMM008-AppIDynSys	Module: Applied Dynamical Systems				me	2	5
MMM008-110231	Applied Dynamical Systems	Lecture	Term paper (Project report)	During semester			
Remedial Courses (Methods Area)							10
MMM009-CalLinAlg	Module: Calculus and Linear Algebra for Graduate Students				me	1	5
MMM009-340181	Calculus and Linear Algebra for Graduate Students	Lecture	Written examination	Examination period			
MMM011-ProbabGS	Module: Probabilities for Graduate Students				me	1	5
MMM011-340171	Probabilities for Graduate Students	Lecture	Written examination	Examination period			
Total CP							30