

# Description of Module guest studies

## 105 Mathematics

### PO-Version 2020

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**Note :**

Please note that you can find the information on examinations, courses corresponding to the examinations, and examination dates in the portal Friedolin under the menu item 'Browse module descriptions'. After logging in, please choose your degree, your study programme, and respective module. Any immediate changes made will be displayed promptly.

<b>Modul FMI-BI0048 Scripting languages and their applications</b>	
Module code	FMI-BI0048
Module title (German)	Skriptsprachen und Anwendungen (ASQ)
Module title (English)	Scripting languages and their applications
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	4 CP
Work load:	120 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	60 h

Modul <b>FMI-BI0057</b> Introduction to LaTeX for scientists	
Module code	FMI-BI0057
Module title (German)	LaTeX Grundlagen für Naturwissenschaftler und Informatiker
Module title (English)	Introduction to LaTeX for scientists
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	4 CP
Work load:	120 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	60 h



<b>Modul FMI-BI0058 Scripting languages in applied bioinformatics</b>	
Module code	FMI-BI0058
Module title (German)	Skriptsprachen in der Bioinformatik (ASQ)
Module title (English)	Scripting languages in applied bioinformatics
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	4 CP
Work load:	120 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0001 Algorithms and Data Structures</b>	
Module code	FMI-IN0001
Module title (German)	Algorithmen und Datenstrukturen
Module title (English)	Algorithms and Data Structures
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-IN0005 Automata and Computability</b>	
Module code	FMI-IN0005
Module title (German)	Automaten und Berechenbarkeit
Module title (English)	Automata and Computability
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-IN0006 Computability and Complexity</b>	
Module code	FMI-IN0006
Module title (German)	Berechenbarkeit und Komplexität
Module title (English)	Computability and Complexity
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-IN0011 Database Systems Specialization</b>	
Module code	FMI-IN0011
Module title (German)	Datenbanksysteme Spezialisierung
Module title (English)	Database Systems Specialization
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0013 Discrete Structures I</b>	
Module code	FMI-IN0013
Module title (German)	Diskrete Strukturen I
Module title (English)	Discrete Structures I
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-IN0016 Introduction to Visual Computing</b>	
Module code	FMI-IN0016
Module title (German)	Einführung in die Bildinformatik
Module title (English)	Introduction to Visual Computing
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-IN0017 Introduction to Artificial Intelligence</b>	
Module code	FMI-IN0017
Module title (German)	Einführung in die Künstliche Intelligenz
Module title (English)	Introduction to Artificial Intelligence
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h



<b>Modul FMI-IN0018 Introduction to Artificial Neural Networks</b>	
Module code	FMI-IN0018
Module title (German)	Einführung in die Theorie künstlicher Neuronaler Netze
Module title (English)	Introduction to Artificial Neural Networks
Frequency of offer (how often is the module offered?)	Every second year (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-IN0025 Foundations of Computational Problem Solving</b>	
Module code	FMI-IN0025
Module title (German)	Grundlagen informatischer Problemlösung
Module title (English)	Foundations of Computational Problem Solving
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	120 h
- Independent studying (incl. preparations for examination)	150 h

<b>Modul FMI-IN0028 Computational Complexity - 6 CP</b>	
Module code	FMI-IN0028
Module title (German)	Komplexitätstheorie - 6 LP
Module title (English)	Computational Complexity - 6 CP
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	75 h
- Independent studying (incl. preparations for examination)	105 h

Modul <b>FMI-IN0030</b> Cryptology	
Module code	FMI-IN0030
Module title (German)	Kryptologie
Module title (English)	Cryptology
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-IN0031 Computational Complexity</b>	
Module code	FMI-IN0031
Module title (German)	Komplexitätstheorie - 3 LP
Module title (English)	Computational Complexity
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0032 Literature research and presentation</b>	
Module code	FMI-IN0032
Module title (German)	Literaturarbeit und Präsentation (ASQ)
Module title (English)	Literature research and presentation
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0033 Logical Systems</b>	
Module code	FMI-IN0033
Module title (German)	Logiksysteme
Module title (English)	Logical Systems
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-IN0034 Machine Learning and Datamining</b>	
Module code	FMI-IN0034
Module title (German)	Maschinelles Lernen und Datamining
Module title (English)	Machine Learning and Datamining
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h



<b>Modul FMI-IN0036 Pattern Recognition</b>	
Module code	FMI-IN0036
Module title (German)	Mustererkennung
Module title (English)	Pattern Recognition
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-IN0045 Project Management</b>	
Module code	FMI-IN0045
Module title (German)	Projektmanagement (ASQ)
Module title (English)	Project Management
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0046 Computer Vision I</b>	
Module code	FMI-IN0046
Module title (German)	Rechnersehen I
Module title (English)	Computer Vision I
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-IN0050 Seminar Algorithmics</b>	
Module code	FMI-IN0050
Module title (German)	Seminar Theoretische Informatik/Algorithmik
Module title (English)	Seminar Algorithmics
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0052 Softwareengineering Specialization I</b>	
Module code	FMI-IN0052
Module title (German)	Softwaretechnik Spezialisierung I
Module title (English)	Softwareengineering Specialization I
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0055 System Software</b>	
Module code	FMI-IN0055
Module title (German)	Systemsoftware
Module title (English)	System Software
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0058 Distributed Systems Specialization I</b>	
Module code	FMI-IN0058
Module title (German)	Verteilte Systeme Spezialisierung I
Module title (English)	Distributed Systems Specialization I
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0060 Distributed Systems and Web Development</b>	
Module code	FMI-IN0060
Module title (German)	Verteilte Systeme
Module title (English)	Distributed Systems and Web Development
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h



<b>Modul FMI-IN0062 Motion Computation from Image Sequences</b>	
Module code	FMI-IN0062
Module title (German)	Bewegungsberechnung aus Bildfolgen
Module title (English)	Motion Computation from Image Sequences
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

Modul <b>FMI-IN0067</b> Mobile Code	
Module code	FMI-IN0067
Module title (German)	Mobiler Code
Module title (English)	Mobile Code
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0075 Object-oriented Programming</b>	
Module code	FMI-IN0075
Module title (German)	Objektorientierte Programmierung
Module title (English)	Object-oriented Programming
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	5 CP
Work load:	150 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	90 h

<b>Modul FMI-IN0076 Declarative Programming</b>	
Module code	FMI-IN0076
Module title (German)	Deklarative Programmierung
Module title (English)	Declarative Programming
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	4 CP
Work load:	120 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0082 Logic and Provability</b>	
Module code	FMI-IN0082
Module title (German)	Logik und Beweisbarkeit
Module title (English)	Logic and Provability
Frequency of offer (how often is the module offered?)	Every second year (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	75 h
- Independent studying (incl. preparations for examination)	105 h

<b>Modul FMI-IN0086 Tools for Pattern Recognition and Machine Learning</b>	
Module code	FMI-IN0086
Module title (German)	Werkzeuge der Mustererkennung und des Maschinellen Lernens
Module title (English)	Tools for Pattern Recognition and Machine Learning
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0095 Computational Geometry I</b>	
Module code	FMI-IN0095
Module title (German)	Algorithmische Geometrie I
Module title (English)	Computational Geometry I
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	90 h

<b>Modul FMI-IN0096 Algorithmic Foundations of Machine Learning</b>	
Module code	FMI-IN0096
Module title (German)	Algorithmische Grundlagen des maschinellen Lernens
Module title (English)	Algorithmic Foundations of Machine Learning
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	90 h



<b>Modul FMI-IN0104 Seminar Algorithmics</b>	
Module code	FMI-IN0104
Module title (German)	Seminar Algorithmik
Module title (English)	Seminar Algorithmics
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0114 Programming in C++</b>	
Module code	FMI-IN0114
Module title (German)	Programmieren in C++
Module title (English)	Programming in C++
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0121 IT Security</b>	
Module code	FMI-IN0121
Module title (German)	IT-Sicherheit
Module title (English)	IT Security
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

Modul <b>FMI-IN0125</b> Automatic Differentiation	
Module code	FMI-IN0125
Module title (German)	Automatisches Differenzieren
Module title (English)	Automatic Differentiation
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0126 High-Performance Computing</b>	
Module code	FMI-IN0126
Module title (German)	Hochleistungsrechnen
Module title (English)	High-Performance Computing
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

Modul <b>FMI-IN0134</b> Visual object recognition	
Module code	FMI-IN0134
Module title (German)	Visuelle Objekterkennung
Module title (English)	Visual object recognition
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0144 Advanced Labs for Computer Science</b>	
Module code	FMI-IN0144
Module title (German)	Fortgeschrittenes Programmierpraktikum
Module title (English)	Advanced Labs for Computer Science
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0157 Statistical Learning Theory (Lab)</b>	
Module code	FMI-IN0157
Module title (German)	Statistische Lerntheorie (Lab)
Module title (English)	Statistical Learning Theory (Lab)
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h



<b>Modul FMI-IN0158 Proof Complexity and Solving</b>	
Module code	FMI-IN0158
Module title (German)	Algorithmisches Beweisen
Module title (English)	Proof Complexity and Solving
Frequency of offer (how often is the module offered?)	Every second semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	90 h

<b>Modul FMI-IN0159 Proof Complexity and Solving LAB</b>	
Module code	FMI-IN0159
Module title (German)	Algorithmisches Beweisen LAB
Module title (English)	Proof Complexity and Solving LAB
Frequency of offer (how often is the module offered?)	Every second semester
Duration of module	1 semester
ECTS credits	4 CP
Work load:	120 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0160 Computational Complexity LAB</b>	
Module code	FMI-IN0160
Module title (German)	Komplexitätstheorie LAB
Module title (English)	Computational Complexity LAB
Frequency of offer (how often is the module offered?)	Every second semester
Duration of module	1 semester
ECTS credits	4 CP
Work load:	120 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	60 h

Modul <b>FMI-IN0162</b> Cryptology LAB	
Module code	FMI-IN0162
Module title (German)	Kryptologie LAB
Module title (English)	Cryptology LAB
Frequency of offer (how often is the module offered?)	Every second semester
Duration of module	1 semester
ECTS credits	4 CP
Work load:	120 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0206 Companion Seminar for Computer Science Events</b>	
Module code	FMI-IN0206
Module title (German)	Begleitseminar zu einer Veranstaltung der Informatik (ASQ)
Module title (English)	Companion Seminar for Computer Science Events
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0208 Essentials and Techniques of Network Analysis</b>	
Module code	FMI-IN0208
Module title (German)	Grundlagen und Techniken der Netzwerkanalyse (ASQ)
Module title (English)	Essentials and Techniques of Network Analysis
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-IN0211 Teaching and Learning of Computer Science</b>	
Module code	FMI-IN0211
Module title (German)	Lehren von Informatik - Lernen von Informatik
Module title (English)	Teaching and Learning of Computer Science
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN0212 Introduction to Business Process Modeling and Management</b>	
Module code	FMI-IN0212
Module title (German)	Grundlagen der Prozessmodellierung und des Prozessmanagements
Module title (English)	Introduction to Business Process Modeling and Management
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h



<b>Modul FMI-IN2000 Database and Information Systems</b>	
Module code	FMI-IN2000
Module title (German)	Datenbanken und Informationssysteme
Module title (English)	Database and Information Systems
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

Modul <b>FMI-IN3008</b> Software and System Development	
Module code	FMI-IN3008
Module title (German)	Software- und Systementwicklung
Module title (English)	Software and System Development
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-IN3131 Master Module Theoretical Computer Science I - 3 CP</b>	
Module code	FMI-IN3131
Module title (German)	Mastermodul Algorithmik/Theoretische Informatik I - 3 LP
Module title (English)	Master Module Theoretical Computer Science I - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN3132 Master Module Theoretical Computer Science II - 3 CP</b>	
Module code	FMI-IN3132
Module title (German)	Mastermodul Algorithmik/Theoretische Informatik II - 3 LP
Module title (English)	Master Module Theoretical Computer Science II - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-IN3161 Master Module Theoretical Computer Science I - 6 CP</b>	
Module code	FMI-IN3161
Module title (German)	Mastermodul Algorithmik/Theoretische Informatik I - 6 LP
Module title (English)	Master Module Theoretical Computer Science I - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-IN3162 Master Module Theoretical Computer Science II - 6 CP</b>	
Module code	FMI-IN3162
Module title (German)	Mastermodul Algorithmik/Theoretische Informatik II - 6 LP
Module title (English)	Master Module Theoretical Computer Science II - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-IN3191 Master Module Theoretical Computer Science I - 9 CP</b>	
Module code	FMI-IN3191
Module title (German)	Mastermodul Algorithmik/Theoretische Informatik I - 9 LP
Module title (English)	Master Module Theoretical Computer Science I - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-IN3192 Master Module Theoretical Computer Science II - 9 CP</b>	
Module code	FMI-IN3192
Module title (German)	Mastermodul Algorithmik/Theoretische Informatik II - 9 LP
Module title (English)	Master Module Theoretical Computer Science II - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h



<b>Modul FMI-MA0101 Algebra 1</b>	
Module code	FMI-MA0101
Module title (German)	Algebra 1
Module title (English)	Algebra 1
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

Modul <b>FMI-MA0102</b> Algebra 2	
Module code	FMI-MA0102
Module title (German)	Algebra 2
Module title (English)	Algebra 2
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0104 Coding Theory with Exercises - 9 CP</b>	
Module code	FMI-MA0104
Module title (German)	Codierungstheorie- 9 LP
Module title (English)	Coding Theory with Exercises - 9 CP
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0106 Group Theory</b>	
Module code	FMI-MA0106
Module title (German)	Gruppentheorie - 9 LP
Module title (English)	Group Theory
Frequency of offer (how often is the module offered?)	Every second year (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0111 Algebraic Topology</b>	
Module code	FMI-MA0111
Module title (German)	Algebraische Topologie
Module title (English)	Algebraic Topology
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0112 Combinatorics</b>	
Module code	FMI-MA0112
Module title (German)	Kombinatorik
Module title (English)	Combinatorics
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0113 Knots and low-dimensional Manifolds</b>	
Module code	FMI-MA0113
Module title (German)	Knoten und niedrigdimensionale Mannigfaltigkeiten
Module title (English)	Knots and low-dimensional Manifolds
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0144 Coding Theory</b>	
Module code	FMI-MA0144
Module title (German)	Codierungstheorie
Module title (English)	Coding Theory
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h



<b>Modul FMI-MA0149 Topology I</b>	
Module code	FMI-MA0149
Module title (German)	Topologie
Module title (English)	Topology I
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0181 Proseminar Algebra</b>	
Module code	FMI-MA0181
Module title (German)	Proseminar Algebra
Module title (English)	Proseminar Algebra
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0182 Seminar Algebra (Bachelor)</b>	
Module code	FMI-MA0182
Module title (German)	Seminar Algebra - Bachelor
Module title (English)	Seminar Algebra (Bachelor)
Frequency of offer (how often is the module offered?)	Every second semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

Modul <b>FMI-MA0201</b> Analysis I	
Module code	FMI-MA0201
Module title (German)	Analysis 1
Module title (English)	Analysis I
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	120 h
- Independent studying (incl. preparations for examination)	150 h

<b>Modul FMI-MA0202 Analysis II</b>	
Module code	FMI-MA0202
Module title (German)	Analysis 2
Module title (English)	Analysis II
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	120 h
- Independent studying (incl. preparations for examination)	150 h

<b>Modul FMI-MA0203 Analysis 3</b>	
Module code	FMI-MA0203
Module title (German)	Analysis 3
Module title (English)	Analysis 3
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0204 Approximation Theory 1</b>	
Module code	FMI-MA0204
Module title (German)	Approximationstheorie 1 - 9 LP
Module title (English)	Approximation Theory 1
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	9 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

Modul <b>FMI-MA0207</b> Higher Analysis I	
Module code	FMI-MA0207
Module title (German)	Höhere Analysis 1
Module title (English)	Higher Analysis I
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h



<b>Modul FMI-MA0242 Fourier Analysis 1</b>	
Module code	FMI-MA0242
Module title (German)	Fourieranalysis 1
Module title (English)	Fourier Analysis 1
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0243 Complex Analysis 1</b>	
Module code	FMI-MA0243
Module title (German)	Funktionentheorie 1
Module title (English)	Complex Analysis 1
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0244 Ordinary Differential Equations</b>	
Module code	FMI-MA0244
Module title (German)	Gewöhnliche Differentialgleichungen
Module title (English)	Ordinary Differential Equations
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

Modul <b>FMI-MA0270</b> Discrete Schrödingeroperators	
Module code	FMI-MA0270
Module title (German)	Diskrete Schrödingeroperatoren
Module title (English)	Discrete Schrödingeroperators
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0281 Proseminar Analysis</b>	
Module code	FMI-MA0281
Module title (German)	Proseminar Analysis
Module title (English)	Proseminar Analysis
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0282 Seminar Analysis Bachelor</b>	
Module code	FMI-MA0282
Module title (German)	Seminar Analysis - Bachelor
Module title (English)	Seminar Analysis Bachelor
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0289 Distributions</b>	
Module code	FMI-MA0289
Module title (German)	Distributionen
Module title (English)	Distributions
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

Modul <b>FMI-MA0301</b> Algebra/Geometry I	
Module code	FMI-MA0301
Module title (German)	Algebra/Geometrie 1
Module title (English)	Algebra/Geometry I
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	120 h
- Independent studying (incl. preparations for examination)	150 h



<b>Modul FMI-MA0302 Algebra/Geometry 2</b>	
Module code	FMI-MA0302
Module title (German)	Algebra/Geometrie 2
Module title (English)	Algebra/Geometry 2
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	120 h
- Independent studying (incl. preparations for examination)	150 h

<b>Modul FMI-MA0402 Fractal Geometry</b>	
Module code	FMI-MA0402
Module title (German)	Fraktale Geometrie
Module title (English)	Fractal Geometry
Frequency of offer (how often is the module offered?)	Every second year (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0404 Convec and Metric Geometry - 9 CP</b>	
Module code	FMI-MA0404
Module title (German)	Konvexe und metrische Geometrie - 9 LP
Module title (English)	Convec and Metric Geometry - 9 CP
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0405 Mathematical Methods of classical Mechanics - 9 CP</b>	
Module code	FMI-MA0405
Module title (German)	Mathematische Methoden der klassischen Mechanik - 9 LP
Module title (English)	Mathematical Methods of classical Mechanics - 9 CP
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0406 Classical Differential Geometry - 9 CP</b>	
Module code	FMI-MA0406
Module title (German)	Klassische Differentialgeometrie - 9 LP
Module title (English)	Classical Differential Geometry - 9 CP
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0408 Analysis on Manifolds - 6 CP</b>	
Module code	FMI-MA0408
Module title (German)	Analysis auf Mannigfaltigkeiten - 6 LP
Module title (English)	Analysis on Manifolds - 6 CP
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0409 Analysis on Manifolds - 9 CP</b>	
Module code	FMI-MA0409
Module title (German)	Analysis auf Mannigfaltigkeiten - 9 LP
Module title (English)	Analysis on Manifolds - 9 CP
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0442 Fractal Geometry</b>	
Module code	FMI-MA0442
Module title (German)	Fraktale Geometrie
Module title (English)	Fractal Geometry
Frequency of offer (how often is the module offered?)	Every second year (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h



<b>Modul FMI-MA0444 Convex and Metric Geometry</b>	
Module code	FMI-MA0444
Module title (German)	Konvexe und metrische Geometrie - 6 LP
Module title (English)	Convex and Metric Geometry
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0445 Mathematical methods of classical mechanics - 6 CP</b>	
Module code	FMI-MA0445
Module title (German)	Mathematische Methoden der klassischen Mechanik - 6 LP
Module title (English)	Mathematical methods of classical mechanics - 6 CP
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0446 Classical differential geometry</b>	
Module code	FMI-MA0446
Module title (German)	Klassische Differentialgeometrie - 6 LP
Module title (English)	Classical differential geometry
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0450 Integral Geometry</b>	
Module code	FMI-MA0450
Module title (German)	Integralgeometrie
Module title (English)	Integral Geometry
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0481 Proseminar Geometry</b>	
Module code	FMI-MA0481
Module title (German)	Proseminar Geometrie
Module title (English)	Proseminar Geometry
Frequency of offer (how often is the module offered?)	In the winter, if necessary also in the summer
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0482 Seminar Geometry Bachelor</b>	
Module code	FMI-MA0482
Module title (German)	Seminar Geometrie - Bachelor
Module title (English)	Seminar Geometry Bachelor
Frequency of offer (how often is the module offered?)	In the summer, if necessary also in the winter
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0500 Introduction to Numerical Analysis and Scientific Computing</b>	
Module code	FMI-MA0500
Module title (German)	Einführung in die Numerische Mathematik und das Wissenschaftliche Rechnen
Module title (English)	Introduction to Numerical Analysis and Scientific Computing
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0501 Methods of Numerical Analysis and Scientific Computing in Practise</b>	
Module code	FMI-MA0501
Module title (German)	Verfahren der Numerischen Mathematik und des Wissenschaftlichen Rechnens im Einsatz
Module title (English)	Methods of Numerical Analysis and Scientific Computing in Practise
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h



<b>Modul FMI-MA0510 Seminar Scientific Computing Bachelor</b>	
Module code	FMI-MA0510
Module title (German)	Seminar Wissenschaftliches Rechnen -Bachelor
Module title (English)	Seminar Scientific Computing Bachelor
Frequency of offer (how often is the module offered?)	In the summer, if necessary also in the winter
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0520 Numerical Methods of Boundary Value Problems - 9 CP</b>	
Module code	FMI-MA0520
Module title (German)	Numerik von Randwertproblemen - 9 LP
Module title (English)	Numerical Methods of Boundary Value Problems - 9 CP
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0521 Numerical Methods of Boundary Value Problems - 6 CP</b>	
Module code	FMI-MA0521
Module title (German)	Numerik von Randwertproblemen - 6 LP
Module title (English)	Numerical Methods of Boundary Value Problems - 6 CP
Frequency of offer (how often is the module offered?)	Every second year (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0552 Proseminar Numerical Analysis</b>	
Module code	FMI-MA0552
Module title (German)	Proseminar Numerische Mathematik
Module title (English)	Proseminar Numerical Analysis
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0553 Seminar Numerical Analysis Bachelor</b>	
Module code	FMI-MA0553
Module title (German)	Seminar Numerische Mathematik - Bachelor
Module title (English)	Seminar Numerical Analysis Bachelor
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0601 Linear Optimization</b>	
Module code	FMI-MA0601
Module title (German)	Lineare Optimierung
Module title (English)	Linear Optimization
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA0602 Discrete Optimization</b>	
Module code	FMI-MA0602
Module title (German)	Diskrete Optimierung
Module title (English)	Discrete Optimization
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

Modul <b>FMI-MA0605</b> Continuous Optimization	
Module code	FMI-MA0605
Module title (German)	Kontinuierliche Optimierung
Module title (English)	Continuous Optimization
Frequency of offer (how often is the module offered?)	Every second year (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h



<b>Modul FMI-MA0642 Introduction to Discrete Optimization</b>	
Module code	FMI-MA0642
Module title (German)	Einführung in die diskrete Optimierung
Module title (English)	Introduction to Discrete Optimization
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

Modul <b>FMI-MA0644</b> Introduction to Continuous Optimization	
Module code	FMI-MA0644
Module title (German)	Einführung in die kontinuierliche Optimierung
Module title (English)	Introduction to Continuous Optimization
Frequency of offer (how often is the module offered?)	Every second year (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0681 Seminar Optimization</b>	
Module code	FMI-MA0681
Module title (German)	Seminar Optimierung - Bachelor
Module title (English)	Seminar Optimization
Frequency of offer (how often is the module offered?)	In the winter, if necessary also in the summer
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0691 Practical Optimization</b>	
Module code	FMI-MA0691
Module title (German)	Praktische Optimierung
Module title (English)	Practical Optimization
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0707 Insurance Mathematics</b>	
Module code	FMI-MA0707
Module title (German)	Einführung in die Versicherungsmathematik
Module title (English)	Insurance Mathematics
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0708 Methods of Insurance and Financial Mathematics</b>	
Module code	FMI-MA0708
Module title (German)	Verfahren der Versicherungs- und Finanzmathematik
Module title (English)	Methods of Insurance and Financial Mathematics
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0710 Introduction into Probability Theory and Mathematical Statistics</b>	
Module code	FMI-MA0710
Module title (German)	Einführung in Wahrscheinlichkeitstheorie und Mathematische Statistik
Module title (English)	Introduction into Probability Theory and Mathematical Statistics
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0711 Measure Theory</b>	
Module code	FMI-MA0711
Module title (German)	Maßtheorie
Module title (English)	Measure Theory
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h



<b>Modul FMI-MA0712 Stochastics</b>	
Module code	FMI-MA0712
Module title (German)	Stochastik
Module title (English)	Stochastics
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0741 Statistical Methods</b>	
Module code	FMI-MA0741
Module title (German)	Statistische Verfahren
Module title (English)	Statistical Methods
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA0781 Seminar Statistics Bachelor</b>	
Module code	FMI-MA0781
Module title (German)	Seminar Statistik - Bachelor
Module title (English)	Seminar Statistics Bachelor
Frequency of offer (how often is the module offered?)	In the winter, if necessary also in the summer
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0782 Seminar Probability Theory Bachelor</b>	
Module code	FMI-MA0782
Module title (German)	Seminar Wahrscheinlichkeitstheorie - Bachelor
Module title (English)	Seminar Probability Theory Bachelor
Frequency of offer (how often is the module offered?)	In the winter, if necessary also in the summer
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0791 Proseminar Stochastics</b>	
Module code	FMI-MA0791
Module title (German)	Proseminar Stochastik
Module title (English)	Proseminar Stochastics
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0904 Business Skills A</b>	
Module code	FMI-MA0904
Module title (German)	Wirtschaftskompetenz A (ASQ)
Module title (English)	Business Skills A
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA0905 Business Skills B</b>	
Module code	FMI-MA0905
Module title (German)	Wirtschaftskompetenz B (ASQ)
Module title (English)	Business Skills B
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA1106 Algebraic Groups</b>	
Module code	FMI-MA1106
Module title (German)	Algebraische Gruppen
Module title (English)	Algebraic Groups
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h



<b>Modul FMI-MA1276 Aperiodic Order - 6 CP</b>	
Module code	FMI-MA1276
Module title (German)	Aperiodische Ordnung
Module title (English)	Aperiodic Order - 6 CP
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

Modul <b>FMI-MA3004</b> Geometry	
Module code	FMI-MA3004
Module title (German)	Geometrie für Lehramtsstudierende
Module title (English)	Geometry
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	7 CP
Work load:	210 h
- In-class studying	75 h
- Independent studying (incl. preparations for examination)	135 h

<b>Modul FMI-MA3005 Scientific Computing</b>	
Module code	FMI-MA3005
Module title (German)	Praktische Mathematik und Modellierung: Wissenschaftliches Rechnen
Module title (English)	Scientific Computing
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

Modul <b>FMI-MA3006</b> Optimization	
Module code	FMI-MA3006
Module title (German)	Praktische Mathematik und Modellierung: Optimierung
Module title (English)	Optimization
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3007 Elementary Methods of Numerics</b>	
Module code	FMI-MA3007
Module title (German)	Elementare Methoden der Numerischen Mathematik
Module title (English)	Elementary Methods of Numerics
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

Modul <b>FMI-MA3009</b> Analysis 1	
Module code	FMI-MA3009
Module title (German)	Analysis 1
Module title (English)	Analysis 1
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	90 h

<b>Modul FMI-MA3010 Analysis 2</b>	
Module code	FMI-MA3010
Module title (German)	Analysis 2
Module title (English)	Analysis 2
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	120 h
- Independent studying (incl. preparations for examination)	150 h

Modul <b>FMI-MA3011</b> Analysis 3	
Module code	FMI-MA3011
Module title (German)	Analysis 3
Module title (English)	Analysis 3
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	90 h



<b>Modul FMI-MA3015 Elementary Geometry</b>	
Module code	FMI-MA3015
Module title (German)	Elementare Geometrie
Module title (English)	Elementary Geometry
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	7 CP
Work load:	210 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	150 h

<b>Modul FMI-MA3023 Linear Algebra and Analytic Geometry 1</b>	
Module code	FMI-MA3023
Module title (German)	Lineare Algebra und Analytische Geometrie 1
Module title (English)	Linear Algebra and Analytic Geometry 1
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	260 h
- In-class studying	120 h
- Independent studying (incl. preparations for examination)	150 h

<b>Modul FMI-MA3027 Probability and Statistics for Trainee Teachers</b>	
Module code	FMI-MA3027
Module title (German)	Wahrscheinlichkeitstheorie und Statistik für Lehramtsstudierende
Module title (English)	Probability and Statistics for Trainee Teachers
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3028 Markov Chains and Stochastic Simulation</b>	
Module code	FMI-MA3028
Module title (German)	Markov-Ketten und stochastische Simulation
Module title (English)	Markov Chains and Stochastic Simulation
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3029 Elementary Probability Theory and Statistics</b>	
Module code	FMI-MA3029
Module title (German)	Elementare Wahrscheinlichkeitstheorie und Statistik
Module title (English)	Elementary Probability Theory and Statistics
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	120 h
- Independent studying (incl. preparations for examination)	150 h

<b>Modul FMI-MA3030 Linear Algebra and Analytical Geometry 2</b>	
Module code	FMI-MA3030
Module title (German)	Lineare Algebra und Analytische Geometrie 2
Module title (English)	Linear Algebra and Analytical Geometry 2
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	90 h

<b>Modul FMI-MA3035 Seminar 1</b>	
Module code	FMI-MA3035
Module title (German)	Seminar 1 (Proseminar)
Module title (English)	Seminar 1
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	2 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3036 Seminar 2</b>	
Module code	FMI-MA3036
Module title (German)	Seminar 2
Module title (English)	Seminar 2
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	4 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h



<b>Modul FMI-MA3050 Algebra for Trainee Teachers</b>	
Module code	FMI-MA3050
Module title (German)	Algebra für Lehramtsstudierende
Module title (English)	Algebra for Trainee Teachers
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3052 Advanced Analysis for Trainee Teachers</b>	
Module code	FMI-MA3052
Module title (German)	Fortgeschrittene Analysis für Lehramtsstudierende
Module title (English)	Advanced Analysis for Trainee Teachers
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA3053 Algebra/Number Theory for Trainee Teachers</b>	
Module code	FMI-MA3053
Module title (German)	Algebra/Zahlentheorie für Lehramtsstudierende
Module title (English)	Algebra/Number Theory for Trainee Teachers
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3055 Simplicial Homology for Trainee Teachers</b>	
Module code	FMI-MA3055
Module title (German)	Simpliziale Homologie für Lehramtsstudierende
Module title (English)	Simplicial Homology for Trainee Teachers
Frequency of offer (how often is the module offered?)	Every second year (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3131 Master Module Algebra /Number Theory I - 3 CP</b>	
Module code	FMI-MA3131
Module title (German)	Mastermodul Algebra/Zahlentheorie I - 3 LP
Module title (English)	Master Module Algebra /Number Theory I - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3132 Master Module Algebra /Number Theory II - 3 CP</b>	
Module code	FMI-MA3132
Module title (German)	Mastermodul Algebra/Zahlentheorie II - 3 LP
Module title (English)	Master Module Algebra /Number Theory II - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3161 Master Module Algebra /Number Theory I - 6 CP</b>	
Module code	FMI-MA3161
Module title (German)	Mastermodul Algebra/Zahlentheorie I - 6 LP
Module title (English)	Master Module Algebra /Number Theory I - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3162 Master Module Algebra /Number Theory II - 6 CP</b>	
Module code	FMI-MA3162
Module title (German)	Mastermodul Algebra/Zahlentheorie II - 6 LP
Module title (English)	Master Module Algebra /Number Theory II - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h



<b>Modul FMI-MA3191 Master Module Algebra /Number Theory I - 9 CP</b>	
Module code	FMI-MA3191
Module title (German)	Mastermodul Algebra/Zahlentheorie I - 9 LP
Module title (English)	Master Module Algebra /Number Theory I - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA3192 Master Module Algebra /Number Theory II - 9 CP</b>	
Module code	FMI-MA3192
Module title (German)	Mastermodul Algebra/Zahlentheorie II - 9 LP
Module title (English)	Master Module Algebra /Number Theory II - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA3231 Master Module Analysis I - 3 CP</b>	
Module code	FMI-MA3231
Module title (German)	Mastermodul Analysis I - 3 LP
Module title (English)	Master Module Analysis I - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3232 Master Module Analysis II - 3 CP</b>	
Module code	FMI-MA3232
Module title (German)	Mastermodul Analysis II - 3 LP
Module title (English)	Master Module Analysis II - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3261 Master Module Analysis I - 6 CP</b>	
Module code	FMI-MA3261
Module title (German)	Mastermodul Analysis I - 6 LP
Module title (English)	Master Module Analysis I - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3262 Master Module Analysis II - 6 CP</b>	
Module code	FMI-MA3262
Module title (German)	Mastermodul Analysis II - 6 LP
Module title (English)	Master Module Analysis II - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3291 Master Module Analysis I - 9 CP</b>	
Module code	FMI-MA3291
Module title (German)	Mastermodul Analysis I - 9 LP
Module title (English)	Master Module Analysis I - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA3292 Master Module Analysis II - 9 CP</b>	
Module code	FMI-MA3292
Module title (German)	Mastermodul Analysis II - 9 LP
Module title (English)	Master Module Analysis II - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h



<b>Modul FMI-MA3331 Master Module Geometry I - 3 CP</b>	
Module code	FMI-MA3331
Module title (German)	Mastermodul Geometrie I - 3 LP
Module title (English)	Master Module Geometry I - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3332 Master Module Geometry II - 3 CP</b>	
Module code	FMI-MA3332
Module title (German)	Mastermodul Geometrie II - 3 LP
Module title (English)	Master Module Geometry II - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3361 Master Module Geometry I - 6 CP</b>	
Module code	FMI-MA3361
Module title (German)	Mastermodul Geometrie I - 6 LP
Module title (English)	Master Module Geometry I - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3362 Master Module Geometry II - 6 CP</b>	
Module code	FMI-MA3362
Module title (German)	Mastermodul Geometrie II - 6 LP
Module title (English)	Master Module Geometry II - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3391 Master Module Geometry I - 9 CP</b>	
Module code	FMI-MA3391
Module title (German)	Mastermodul Geometrie I - 9 LP
Module title (English)	Master Module Geometry I - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA3392 Master Module Geometry II - 9 CP</b>	
Module code	FMI-MA3392
Module title (German)	Mastermodul Geometrie II - 9 LP
Module title (English)	Master Module Geometry II - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA3431 Master Module Numerical Analysis / Scientific Computing I - 3 CP</b>	
Module code	FMI-MA3431
Module title (German)	Mastermodul Numerische Mathematik/Wissenschaftliches Rechnen I - 3 LP
Module title (English)	Master Module Numerical Analysis / Scientific Computing I - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3432 Master Module Numerical Analysis / Scientific Computing II - 3 CP</b>	
Module code	FMI-MA3432
Module title (German)	Mastermodul Numerische Mathematik/Wissenschaftliches Rechnen II - 3 LP
Module title (English)	Master Module Numerical Analysis / Scientific Computing II - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h



<b>Modul FMI-MA3461 Master Module Numerical Analysis / Scientific Computing I - 6 CP</b>	
Module code	FMI-MA3461
Module title (German)	Mastermodul Numerische Mathematik/Wissenschaftliches Rechnen I - 6 LP
Module title (English)	Master Module Numerical Analysis / Scientific Computing I - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3462 Master Module Numerical Analysis / Scientific Computing II - 6 CP</b>	
Module code	FMI-MA3462
Module title (German)	Mastermodul Numerische Mathematik/Wissenschaftliches Rechnen II - 6 LP
Module title (English)	Master Module Numerical Analysis / Scientific Computing II - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3491 Master Module Numerical Analysis / Scientific Computing I - 9 CP</b>	
Module code	FMI-MA3491
Module title (German)	Mastermodul Numerische Mathematik/Wissenschaftliches Rechnen I - 9 LP
Module title (English)	Master Module Numerical Analysis / Scientific Computing I - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA3492 Master Module Numerical Analysis / Scientific Computing II - 9 CP</b>	
Module code	FMI-MA3492
Module title (German)	Mastermodul Numerische Mathematik/Wissenschaftliches Rechnen II - 9 LP
Module title (English)	Master Module Numerical Analysis / Scientific Computing II - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA3531 Master Module Optimization I - 3 CP</b>	
Module code	FMI-MA3531
Module title (German)	Mastermodul Optimierung I - 3 LP
Module title (English)	Master Module Optimization I - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3532 Master Module Optimization II - 3 CP</b>	
Module code	FMI-MA3532
Module title (German)	Mastermodul Optimierung II - 3 LP
Module title (English)	Master Module Optimization II - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3561 Master Module Optimization I - 6 CP</b>	
Module code	FMI-MA3561
Module title (German)	Mastermodul Optimierung I - 6 LP
Module title (English)	Master Module Optimization I - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3562 Master Module Optimization II - 6 CP</b>	
Module code	FMI-MA3562
Module title (German)	Mastermodul Optimierung II - 6 LP
Module title (English)	Master Module Optimization II - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h



<b>Modul FMI-MA3591 Master Module Optimization I - 9 CP</b>	
Module code	FMI-MA3591
Module title (German)	Mastermodul Optimierung I - 9 LP
Module title (English)	Master Module Optimization I - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA3592 Master Module Optimization II - 9 CP</b>	
Module code	FMI-MA3592
Module title (German)	Mastermodul Optimierung II - 9 LP
Module title (English)	Master Module Optimization II - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA3631 Master Module Stochastics I - 3 CP</b>	
Module code	FMI-MA3631
Module title (German)	Mastermodul Stochastik I - 3 LP
Module title (English)	Master Module Stochastics I - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3632 Master Module Stochastics II - 3 CP</b>	
Module code	FMI-MA3632
Module title (German)	Mastermodul Stochastik II - 3 LP
Module title (English)	Master Module Stochastics II - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3661 Master Module Stochastics I - 6 CP</b>	
Module code	FMI-MA3661
Module title (German)	Mastermodul Stochastik I - 6 LP
Module title (English)	Master Module Stochastics I - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3662 Master Module Stochastics II - 6 CP</b>	
Module code	FMI-MA3662
Module title (German)	Mastermodul Stochastik II - 6 LP
Module title (English)	Master Module Stochastics II - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-MA3691 Master Module Stochastics I - 9 CP</b>	
Module code	FMI-MA3691
Module title (German)	Mastermodul Stochastik I - 9 LP
Module title (English)	Master Module Stochastics I - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h

<b>Modul FMI-MA3692 Master Module Stochastics II - 9 CP</b>	
Module code	FMI-MA3692
Module title (German)	Mastermodul Stochastik II - 9 LP
Module title (English)	Master Module Stochastics II - 9 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	9 CP
Work load:	270 h
- In-class studying	90 h
- Independent studying (incl. preparations for examination)	180 h



<b>Modul FMI-MA3801 Master Module Seminar I</b>	
Module code	FMI-MA3801
Module title (German)	Mastermodul Seminar 1
Module title (English)	Master Module Seminar I
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3802 Master Module Seminar II</b>	
Module code	FMI-MA3802
Module title (German)	Mastermodul Seminar 2
Module title (English)	Master Module Seminar II
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-MA3811 Master Module Project</b>	
Module code	FMI-MA3811
Module title (German)	Mastermodul Projekt
Module title (English)	Master Module Project
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	6 week(s)
ECTS credits	6 CP
Work load:	180 h
- In-class studying	- h
- Independent studying (incl. preparations for examination)	- h

<b>Modul FMI-MA4003 Mathematics Education A</b>	
Module code	FMI-MA4003
Module title (German)	Didaktik der Mathematik A-Gy
Module title (English)	Mathematics Education A
Frequency of offer (how often is the module offered?)	Every second semester (beginning in summer semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	150 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	90 h

<b>Modul FMI-SQ0101 ASQ Module Programming Languages and Programming I - 3 CP</b>	
Module code	FMI-SQ0101
Module title (German)	ASQ-Modul Programmiersprachen und Programmierung I - 3 LP
Module title (English)	ASQ Module Programming Languages and Programming I - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	30 h

<b>Modul FMI-SQ0102 ASQ Module Programming Languages and Programming II - 3 CP</b>	
Module code	FMI-SQ0102
Module title (German)	ASQ-Modul Programmiersprachen und Programmierung II - 3 LP
Module title (English)	ASQ Module Programming Languages and Programming II - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	30 h

<b>Modul FMI-SQ0105 ASQ Module Programming Languages and Programming I - 6 CP</b>	
Module code	FMI-SQ0105
Module title (German)	ASQ-Modul Programmiersprachen und Programmierung I - 6 LP
Module title (English)	ASQ Module Programming Languages and Programming I - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-SQ0106 ASQ Module Programming Languages and Programming II - 6 CP</b>	
Module code	FMI-SQ0106
Module title (German)	ASQ-Modul Programmiersprachen und Programmierung II - 6 LP
Module title (English)	ASQ Module Programming Languages and Programming II - 6 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h



<b>Modul FMI-SQ0121 ASQ Module Scripting Languages I - 4 CP</b>	
Module code	FMI-SQ0121
Module title (German)	ASQ-Modul Skriptsprachen I - 4 LP
Module title (English)	ASQ Module Scripting Languages I - 4 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	4 CP
Work load:	120 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-SQ0122 ASQ Module Scripting Languages II - 4 CP</b>	
Module code	FMI-SQ0122
Module title (German)	ASQ-Modul Skriptsprachen II - 4 LP
Module title (English)	ASQ Module Scripting Languages II - 4 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	4 CP
Work load:	120 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-SQ0125 ASQ Module Introduction to LaTeX for Scientists</b>	
Module code	FMI-SQ0125
Module title (German)	ASQ-Modul LaTeX Grundlagen für Naturwissenschaftler und Informatiker - 4 LP
Module title (English)	ASQ Module Introduction to LaTeX for Scientists
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	4 CP
Work load:	120 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-SQ0130 Data Analysis with R</b>	
Module code	FMI-SQ0130
Module title (German)	Datenanalyse mit R
Module title (English)	Data Analysis with R
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-SQ0131 ASQ Module Functional Programming</b>	
Module code	FMI-SQ0131
Module title (German)	Funktionale Programmierung
Module title (English)	ASQ Module Functional Programming
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-SQ0201 ASQ Module Business Skills I - 3 CP</b>	
Module code	FMI-SQ0201
Module title (German)	ASQ-Modul Wirtschaftskompetenz I - 3 LP
Module title (English)	ASQ Module Business Skills I - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-SQ0202 ASQ Module Business Skills II - 3 CP</b>	
Module code	FMI-SQ0202
Module title (German)	ASQ-Modul Wirtschaftskompetenz II - 3 LP
Module title (English)	ASQ Module Business Skills II - 3 CP
Frequency of offer (how often is the module offered?)	Every semester
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-SQ0211 ASQ Module Project Management</b>	
Module code	FMI-SQ0211
Module title (German)	ASQ-Modul Projektmanagement
Module title (English)	ASQ Module Project Management
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h



<b>Modul FMI-SQ0301 ASQ Module Number Feeling and Structure Feeling - 3 CP</b>	
Module code	FMI-SQ0301
Module title (German)	ASQ-Modul Zahlengefühl und Strukturgefühl - 3 LP
Module title (English)	ASQ Module Number Feeling and Structure Feeling - 3 CP
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul FMI-SQ0302 ASQ Module Number Feeling and Structure Feeling - 6 CP</b>	
Module code	FMI-SQ0302
Module title (German)	ASQ-Modul Zahlengefühl und Strukturgefühl - 6 LP
Module title (English)	ASQ Module Number Feeling and Structure Feeling - 6 CP
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-SQ0303 Go - a mathematical strategic board game</b>	
Module code	FMI-SQ0303
Module title (German)	Go - Ein mathematisches Strategiespiel
Module title (English)	Go - a mathematical strategic board game
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	1 semester
ECTS credits	6 CP
Work load:	180 h
- In-class studying	60 h
- Independent studying (incl. preparations for examination)	120 h

<b>Modul FMI-SQ0501 ASQ Module Informatics and Society</b>	
Module code	FMI-SQ0501
Module title (German)	ASQ-Modul Informatik und Gesellschaft
Module title (English)	ASQ Module Informatics and Society
Frequency of offer (how often is the module offered?)	At irregular intervals
Duration of module	1 semester
ECTS credits	3 CP
Work load:	90 h
- In-class studying	30 h
- Independent studying (incl. preparations for examination)	60 h

<b>Modul MED-MDS002 Analysis of Medical Data and Signals</b>	
Module code	MED-MDS002
Module title (German)	Analyse medizinischer Daten und Signale
Module title (English)	Analysis of Medical Data and Signals
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	2 semester
ECTS credits	12 CP
Work load:	360 h
- In-class studying	120 h
- Independent studying (incl. preparations for examination)	240 h

<b>Modul MED-MDS003 Medical Imaging Systems and Image Processing</b>	
Module code	MED-MDS003
Module title (German)	Bildgebende Verfahren und Bildverarbeitung in der Medizin
Module title (English)	Medical Imaging Systems and Image Processing
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	2 semester
ECTS credits	12 CP
Work load:	360 h
- In-class studying	120 h
- Independent studying (incl. preparations for examination)	240 h

<b>Modul MED-MDS004 Applied Medical Statistics</b>	
Module code	MED-MDS004
Module title (German)	Angewandte Statistik in der Medizin
Module title (English)	Applied Medical Statistics
Frequency of offer (how often is the module offered?)	Every second semester (beginning in winter semester)
Duration of module	2 semester
ECTS credits	12 CP
Work load:	360 h
- In-class studying	120 h
- Independent studying (incl. preparations for examination)	240 h

# Abbreviations:

## Abbreviations of lectures

IL....	Inaugural lecture
WG....	Working group
AM....	Advanced module
Exh....	Exhibition
BM....	Basic module
BzPS....	Begleitveranstaltung zum Praxissemester
C....	Consulting
To....	Tour
M....	Meeting
Blo....	Blockage
BC....	Block course
DV....	Slide show
IN....	Introductory session
RS....	Registrations
EC....	Exam course
EX....	Excursion
Exp....	Experiment/survey
FE....	Celebration/festivity
MS....	Movie screening
FEx....	Field exercise
BC....	Basic course
MaS....	Main seminar
MS/ BC....	Main seminar/block course
MaS/ Ex....	Main seminar/exercise
Inf....	Information session
IDS/E....	Interdisciplinary main seminar/ exercise
E....	Exam
E/T....	Exam/test
C....	Colloquium
C/I....	Colloquium/practical work
CS....	Conference/symposium
kV....	Kulturelle Veranstaltung
Cu....	Course

## Abbreviations of lectures

Co....	Course
Lag....	Lagerung
TRP....	Training research project
RC....	Reading course
M....	Module
ME....	Musical event
AS....	Advanced seminar
OnS....	Online seminar
OnL....	Online lecture
P....	Practical work
I/S....	Practical work/seminar
PM....	Practice module
Sa....	Sample
PJ....	Project
PPD....	Propaedeutic
PS....	Proseminar
EPr....	Exam preparation
CSA....	Cross-sectional area
RE....	Revision course
LS....	Lecture Series
TC....	Training course
S....	Seminar
S/E....	Seminar/Excursion
S/E....	Seminar/Exercise
ST....	Service time
Sl....	Conference
SuSch....	Summer school
MISC....	Miscellaneous
OE....	Other event
LC....	Language course
Con....	Convention
TT....	Teleteaching
MN....	Meeting
Tu....	Tutorial
T....	Tutorial
E....	Exercise
E/BC....	Exercise/block course
E....	Exercises
E/I....	Exercise/interdisciplinary
E/I....	Exercise/practical work



Abbreviations of lectures

E/T....	Exercise/tutorial
Conf....	Conference
ViCo....	Video conference
L....	Lecture
L/C....	Lecture with colloquium
L/I....	Lecture/practical work
L/S....	Lecture/seminar
L/E....	Lecture/exercise
Sp....	Speech
TK....	Talk
OS....	Optional seminar
OL....	Optional lecture
Tr....	Training
Wo....	Workshop
WOS....	Workshop
CAC....	Certificate award ceremony

Other Abbreviations

Anm.....	Anmerkung
ASQ....	Allgemeine Schlüsselqualifikationen
AT....	Altes Testament
E....	Essay
FSQ....	Fachspezifische Schlüsselqualifikationen
FSV....	Fakultät für Sozial- und Verhaltenswissenschaften
GK....	Grundkurs
IAW....	Institut für Altertumswissenschaften
LP....	Leistungspunkte
NT....	Neues Testament
SQ....	Schlüsselqualifikationen
SS....	Sommersemester
SWS....	Semesterwochenstunden
TE....	Teilnahme
TP....	Thesenpublikation
ThULB....	Thüringer Universitäts- und Landesbibliothek
VVZ....	Vorlesungsverzeichnis
WS....	Wintersemester