

# Recommended Modules of Studies for Guest Students:

## Computer Science / Bachelor's level

Almost all of our Bachelor's level modules are taught in **German**. Only advanced modules for small audiences might be taught in English on request.

All modules span one semester—unless stated otherwise in the module list (“spanning two semesters”).

If you are studying bioinformatics, information systems, or other interdisciplinary subjects, please check the offerings of the other subject as well.

Module	Title	ECTS
<b>Every semester</b>		
<b>FMI-BI0048</b>	Skriptsprachen und Anwendungen (ASQ) <i>Scripting languages and their applications</i>	4
<b>FMI-BI0058</b>	Skriptsprachen in der Bioinformatik (ASQ) <i>Scripting languages in applied bioinformatics</i>	4
<b>FMI-IN0044</b>	Projekt Intelligente Systeme <i>Project Intelligent Systems</i>	6
<b>FMI-IN0050</b>	Seminar Theoretische Informatik/Algorithmik <i>Seminar Algorithmics</i>	3
<b>FMI-IN0051</b>	Softwareentwicklungsprojekt I <i>Project in applied Softwaredevelopment</i>	9
<b>FMI-IN0113</b>	Seminar Software- und Informationssysteme <i>Seminar Software and Information Systems</i>	3
<b>FMI-IN0144</b>	Fortgeschrittenes Programmierpraktikum <i>Advanced Labs for Computer Science</i>	3
<b>FMI-MA0741</b>	Statistische Verfahren <i>Statistical Methods</i>	6
<b>Winter semester</b>		
<b>FMI-BI0001</b>	3D-Strukturen biologischer Makromoleküle <i>3D Structures of Biological Makromolecules</i>	6
<b>FMI-BI0005</b>	Grundlagen der Systembiologie <i>Fundamentals of Systems Biology</i>	6
<b>FMI-BI0007</b>	Projekt Data Mining und Sequenzanalyse <i>Project Data Mining and Sequence Analysis</i>	6
<b>FMI-BI0054</b>	Viren Bioinformatik <i>Viral Bioinformatics</i>	3
<b>FMI-IN0005</b>	Automaten und Berechenbarkeit <i>Automata and Computability</i>	9
<b>FMI-IN0006</b>	Berechenbarkeit und Komplexität <i>Computability and Complexity</i>	6
<b>FMI-IN0008</b>	Datenbanksysteme I <i>Database Systems I</i>	6
<b>FMI-IN0013</b>	Diskrete Strukturen I <i>Discrete Structures I</i>	6
<b>FMI-IN0018</b>	Einführung in die Theorie künstlicher Neuronaler Netze <i>Introduction to Artificial Neural Networks</i>	6
<b>FMI-IN0025</b>	Grundlagen informatischer Problemlösung <i>Foundations of Computational Problem Solving</i>	9
<b>FMI-IN0034</b>	Maschinelles Lernen und Datamining <i>Machine Learning and Datamining</i>	6

<b>FMI-IN0046</b>	Rechnersehen I <i>Computer Vision I</i>	6
<b>FMI-IN0052</b>	Softwaretechnik Spezialisierung I <i>Softwareengineering Specialization I</i>	3
<b>FMI-IN0055</b>	Systemsoftware <i>System Software</i>	3
<b>FMI-IN0058</b>	Verteilte Systeme Spezialisierung I <i>Distributed Systems Specialization I</i>	3
<b>FMI-IN0119</b>	Algorithm Engineering <i>Algorithm Engineering</i>	6
<b>FMI-IN0141</b>	Big Data <i>Big Data</i>	6
<b>FMI-IN1009</b>	Strukturiertes Programmieren - 9 LP <i>Structural Programming - 9 CP</i>	9
<b>FMI-MA0007</b>	Einführung in die Wahrscheinlichkeitstheorie <i>Introduction to Probability Theory</i>	6
<b>FMI-MA0022</b>	Lineare Algebra <i>Linear Algebra</i>	6
<b>FMI-MA0601</b>	Lineare Optimierung <i>Linear Optimization</i>	9
<b>FMI-MA0904</b>	Wirtschaftskompetenz A (ASQ) <i>Business Skills A</i>	3
<b>Mostly winter semester</b>		
<b>FMI-IN0060</b>	Verteilte Systeme <i>Distributed Systems and Web Development</i>	6
<b>Summer semester</b>		
<b>FMI-BI0012</b>	Analyse der Genexpression <i>Gene Expression Analysis</i>	3
<b>FMI-BI0055</b>	Proseminar Bioinformatik LS Böcker <i>Proseminar Bioinformatics</i>	3
<b>FMI-BI0056</b>	Proseminar Bioinformatik LS Schuster <i>Proseminar Bioinformatics</i>	3
<b>FMI-BI0057</b>	LaTeX Grundlagen für Naturwissenschaftler und Informatiker <i>Introduction to LaTeX for scientists</i>	4
<b>FMI-IN0001</b>	Algorithmen und Datenstrukturen <i>Algorithms and Data Structures</i>	9
<b>FMI-IN0014</b>	Diskrete Strukturen II <i>Discrete Structures II</i>	6
<b>FMI-IN0021</b>	Grundlagen der Informations- und Softwaresysteme <i>Foundations of Information- and Softwaresystems</i>	6
<b>FMI-IN0036</b>	Mustererkennung <i>Pattern Recognition</i>	6
<b>FMI-IN0042</b>	Praktische Programmierübung <i>Practical Course Programming</i>	6
<b>FMI-IN0045</b>	Projektmanagement (ASQ) <i>Project Management</i>	3
<b>FMI-IN0049</b>	Seminar Rechnersehen <i>Seminar Computer Vision</i>	3
<b>FMI-IN0075</b>	Objektorientierte Programmierung <i>Object-oriented Programming</i>	5
<b>FMI-IN0076</b>	Deklarative Programmierung <i>Declarative Programming</i>	4
<b>FMI-IN0096</b>	Algorithmische Grundlagen des maschinellen Lernens <i>Algorithmic Foundations of Machine Learning</i>	6
<b>FMI-IN0134</b>	Visuelle Objekterkennung <i>Visual object recognition</i>	3

<b>FMI-IN0139</b>	Elemente der rechen- und datengetriebenen Wissenschaften <i>Elements of Computational and Data Science</i>	3
<b>FMI-MA0017</b>	Grundlagen der Analysis <i>Basic Calculus</i>	6
<b>FMI-MA0029</b>	Numerische Mathematik - 6 LP <i>Numerical Analysis - 6 CP</i>	6
<b>FMI-MA0244</b>	Gewöhnliche Differentialgleichungen <i>Ordinary Differential Equations</i>	6
<b>Mostly summer semester</b>		
<b>FMI-BI0013</b>	Beruf und Karriere für Bioinformatiker <i>Job and career for Bioinformaticians</i>	1
<b>Spanning two semesters, starting winter</b>		
<b>FMI-BI0003</b>	Einführung in die Bioinformatik I <i>Introduction to Bioinformatics I</i>	12
<b>MED-MDS002</b>	Analyse medizinischer Daten und Signale <i>Analysis of Medical Data and Signals</i>	12
<b>MED-MDS003</b>	Bildgebende Verfahren und Bildverarbeitung in der Medizin <i>Medical Imaging Systems and Image Processing</i>	12
<b>MED-MDS004</b>	Angewandte Statistik in der Medizin <i>Applied Medical Statistics</i>	12
<b>Spanning two semesters, starting summer</b>		
<b>FMI-BI0004</b>	Einführung in die Bioinformatik II <i>Introduction to Bioinformatics II</i>	9
<b>Rotation not exactly specified</b>		
<b>FMI-BI0043</b>	Methoden der Hochdurchsatzsequenzierung -theoretischer Teil <i>High Throughput Sequencing Methods</i>	3
<b>FMI-IN0169</b>	Seminar High-Performance Computing <i>Seminar High-Performance Computing</i>	3
<b>Courses offered very irregularly</b>		
<b>FMI-BI0002</b>	Algorithmische Phylogenetik <i>Algorithmic Phylogenetics</i>	6
<b>FMI-BI0006</b>	Mathematische Biologie I <i>Mathematical Biology I</i>	6
<b>FMI-BI0008</b>	Algorithmische Massenspektrometrie <i>Computational mass spectrometry</i>	6
<b>FMI-BI0009</b>	Sequenzanalyse <i>Sequence Analysis</i>	6
<b>FMI-BI0011</b>	Bioinformatische Methoden in der Genomforschung <i>Computational Genomics</i>	6
<b>FMI-BI0025</b>	Evolutionäre Algorithmen <i>Evolutionary Algorithms</i>	6
<b>FMI-BI0046</b>	RNA Bioinformatik (theoretischer Teil) <i>RNA Bioinformatics (theoretical chapter)</i>	3
<b>FMI-BI0047</b>	RNA Bioinformatik Praktikum <i>RNA Bioinformatics - Practical Course</i>	4
<b>FMI-BI0049</b>	Methoden der Hochdurchsatzsequenzierung - Praktikum <i>High Throughput Sequencing Methods - Practical Course</i>	4
<b>FMI-BI0053</b>	Bildbasierte Systembiologie <i>Image-based Systems Biology</i>	6
<b>FMI-BI0059</b>	Grundlegende bioinformatische Anwendungen <i>Basic Bioinformatical Applications</i>	4
<b>FMI-IN0009</b>	Datenbanksysteme II <i>Database Systems II</i>	6
<b>FMI-IN0011</b>	Datenbanksysteme Spezialisierung <i>Database Systems Specialization</i>	3

<b>FMI-IN0016</b>	Einführung in die Bildinformatik <i>Introduction to Visual Computing</i>	6
<b>FMI-IN0017</b>	Einführung in die Künstliche Intelligenz <i>Introduction to Artificial Intelligence</i>	6
<b>FMI-IN0027</b>	Ingenieurmäßige Softwareentwicklung <i>Softwareengineering</i>	6
<b>FMI-IN0030</b>	Kryptologie <i>Cryptology</i>	6
<b>FMI-IN0032</b>	Literaturarbeit und Präsentation (ASQ) <i>Literature research and presentation</i>	3
<b>FMI-IN0033</b>	Logiksysteme <i>Logical Systems</i>	6
<b>FMI-IN0062</b>	Bewegungsberechnung aus Bildfolgen <i>Motion Computation from Image Sequences</i>	3
<b>FMI-IN0086</b>	Werkzeuge der Mustererkennung und des Maschinellen Lernens <i>Tools for Pattern Recognition and Machine Learning</i>	3
<b>FMI-IN0095</b>	Algorithmische Geometrie I <i>Computational Geometry I</i>	6
<b>FMI-IN0102</b>	Algorithm Engineering Lab <i>Algorithm Engineering Lab</i>	6
<b>FMI-IN0121</b>	IT-Sicherheit <i>IT Security</i>	6
<b>FMI-IN0152</b>	Thinking Parallel <i>Thinking Parallel</i>	3
<b>FMI-IN0153</b>	Thinking Parallel in Practice <i>Thinking Parallel in Practice</i>	3
<b>FMI-IN0157</b>	Statistische Lerntheorie (Lab) <i>Statistical Learning Theory (Lab)</i>	3
<b>FMI-IN0158</b>	Algorithmisches Beweisen <i>Proof Complexity and Solving</i>	6
<b>FMI-IN0159</b>	Algorithmisches Beweisen LAB <i>Proof Complexity and Solving LAB</i>	4
<b>FMI-IN0160</b>	Komplexitätstheorie LAB <i>Computational Complexity LAB</i>	4
<b>FMI-IN0162</b>	Kryptologie LAB <i>Cryptology LAB</i>	4
<b>FMI-IN0163</b>	Projekt - Paralleles Rechnen <i>Project - Parallel Computing</i>	6
<b>FMI-IN0166</b>	Computergrafik <i>Computer Graphics</i>	6
<b>FMI-IN0168</b>	Computergrafik 2 <i>Computer Graphics 2</i>	6
<b>FMI-IN0206</b>	Begleitseminar zu einer Veranstaltung der Informatik (ASQ) <i>Companion Seminar for Computer Science Events</i>	3
<b>FMI-IN0208</b>	Grundlagen und Techniken der Netzwerkanalyse (ASQ) <i>Essentials and Techniques of Network Analysis</i>	6
<b>FMI-IN0211</b>	Lehren von Informatik - Lernen von Informatik <i>Teaching and Learning of Computer Science</i>	3
<b>FMI-IN0212</b>	Grundlagen der Prozessmodellierung und des Prozessmanagements <i>Introduction to Business Process Modeling and Management</i>	6
<b>FMI-MA0520</b>	Numerik von Randwertproblemen - 9 LP <i>Numerical Methods of Boundary Value Problems - 9 CP</i>	9
<b>FMI-MA0521</b>	Numerik von Randwertproblemen - 6 LP <i>Numerical Methods of Boundary Value Problems - 6 CP</i>	6
<b>FMI-MA0642</b>	Einführung in die diskrete Optimierung <i>Introduction to Discrete Optimization</i>	6

<b>FMI-MA0644</b>	Einführung in die kontinuierliche Optimierung <i>Introduction to Continuous Optimization</i>	6
<b>FMI-MA0905</b>	Wirtschaftskompetenz B (ASQ) <i>Business Skills B</i>	3
<b>FMI-SQ0130</b>	Datenanalyse mit R <i>Data Analysis with R</i>	6
<b>FMI-SQ0131</b>	Funktionale Programmierung <i>ASQ Module Functional Programming</i>	3
<b>FMI-SQ0303</b>	Go - Ein mathematisches Strategiespiel <i>Go - a mathematical strategic board game</i>	6

# Recommended Modules of Studies for Guest Students:

## Computer Science / Master's level

Most of our Master's level modules are taught **in German**. Several modules will be taught in English on request. You will need to contact the teaching person in advance. However, this will be only possible some weeks before the lectures start.

All modules span one semester—unless stated otherwise in the module list (“spanning two semesters”).

If you are studying bioinformatics, information systems, or other interdisciplinary subjects, please check the offerings of the other subject as well.

Module	Title	ECTS
<b>Every semester</b>		
<b>FMI-BI0020</b>	Projektmodul <i>Project modul</i>	6
<b>FMI-BI0021</b>	Seminar Bioinformatik 1 <i>Seminar Bioinformatics 1</i>	3
<b>FMI-BI0022</b>	Seminar Bioinformatik 2 <i>Seminar Bioinformatics 2</i>	3
<b>FMI-BI0023</b>	Seminar Bioinformatik 3 <i>Seminar Bioinformatics 3</i>	3
<b>FMI-BI0024</b>	Seminar Bioinformatik 4 <i>Seminar Bioinformatics 4</i>	3
<b>FMI-BI0048</b>	Skriptsprachen und Anwendungen (ASQ) <i>Scripting languages and their applications</i>	4
<b>FMI-BI0058</b>	Skriptsprachen in der Bioinformatik (ASQ) <i>Scripting languages in applied bioinformatics</i>	4
<b>FMI-IN0085</b>	Spezielle Probleme im Rechnersehen <i>Recent Advances in Computer Vision</i>	3
<b>FMI-IN0104</b>	Seminar Algorithmik <i>Seminar Algorithmics</i>	3
<b>FMI-IN0111</b>	Anwendungspraktikum 3-D Rechnersehen <i>Practical 3-D Computer Vision</i>	9
<b>FMI-IN3801</b>	Mastermodul Seminar I <i>Master Module Seminar I</i>	3
<b>FMI-IN3802</b>	Mastermodul Seminar II <i>Master Module Seminar II</i>	3
<b>FMI-IN3811</b>	Mastermodul Projektarbeit I - 3 LP <i>Master Module Project I - 3 CP</i>	3
<b>FMI-IN3812</b>	Mastermodul Projektarbeit II - 3 LP <i>Master Module Project II - 3 CP</i>	3
<b>FMI-IN3814</b>	Mastermodul Projektarbeit I - 6 LP <i>Master Module Project I - 6 CP</i>	6
<b>FMI-IN3815</b>	Mastermodul Projektarbeit II - 6 LP <i>Master Module Project II - 6 CP</i>	6
<b>FMI-MA0741</b>	Statistische Verfahren <i>Statistical Methods</i>	6
<b>Winter semester</b>		
<b>FMI-BI0001</b>	3D-Strukturen biologischer Makromoleküle <i>3D Structures of Biological Makromolecules</i>	6
<b>FMI-BI0005</b>	Grundlagen der Systembiologie <i>Fundamentals of Systems Biology</i>	6

<b>FMI-BI0054</b>	Viren Bioinformatik <i>Viral Bioinformatics</i>	3
<b>FMI-IN0008</b>	Datenbanksysteme I <i>Database Systems I</i>	6
<b>FMI-IN0013</b>	Diskrete Strukturen I <i>Discrete Structures I</i>	6
<b>FMI-IN0018</b>	Einführung in die Theorie künstlicher Neuronaler Netze <i>Introduction to Artificial Neural Networks</i>	6
<b>FMI-IN0034</b>	Maschinelles Lernen und Datamining <i>Machine Learning and Datamining</i>	6
<b>FMI-IN0046</b>	Rechnersehen I <i>Computer Vision I</i>	6
<b>FMI-IN0052</b>	Softwaretechnik Spezialisierung I <i>Softwareengineering Specialization I</i>	3
<b>FMI-IN0053</b>	Softwaretechnik Spezialisierung II <i>Softwareengineering Specialization II</i>	6
<b>FMI-IN0058</b>	Verteilte Systeme Spezialisierung I <i>Distributed Systems Specialization I</i>	3
<b>FMI-IN0083</b>	Signalorientierte Bildverarbeitung <i>Signal Oriented Image Processing</i>	6
<b>FMI-IN0119</b>	Algorithm Engineering <i>Algorithm Engineering</i>	6
<b>FMI-IN0125</b>	Automatisches Differenzieren <i>Automatic Differentiation</i>	3
<b>FMI-IN0131</b>	(Semantische) Daten- und Prozessintegration <i>(Semantic) Data and Process Integration</i>	3
<b>FMI-MA0904</b>	Wirtschaftskompetenz A (ASQ) <i>Business Skills A</i>	3
<b>Mostly winter semester</b>		
<b>FMI-IN0060</b>	Verteilte Systeme <i>Distributed Systems and Web Development</i>	6
<b>Summer semester</b>		
<b>FMI-BI0012</b>	Analyse der Genexpression <i>Gene Expression Analysis</i>	3
<b>FMI-BI0015</b>	Metabolische und regulatorische Netzwerke <i>Metabolic and regulatory networks</i>	7
<b>FMI-BI0017</b>	Logik lebender Systeme <i>Logic of living systems</i>	6
<b>FMI-BI0044</b>	Systembiologie der Immunologie <i>Systems Biology of Immunology</i>	6
<b>FMI-BI0050</b>	Molekulare Algorithmen <i>Molecular Algorithm</i>	3
<b>FMI-BI0052</b>	Angewandte Systembiologie am Beispiel biologischer Uhren <i>Applied systems biology taking biological clocks as example</i>	10
<b>FMI-BI0057</b>	LaTeX Grundlagen für Naturwissenschaftler und Informatiker <i>Introduction to LaTeX for scientists</i>	4
<b>FMI-IN0036</b>	Mustererkennung <i>Pattern Recognition</i>	6
<b>FMI-IN0045</b>	Projektmanagement (ASQ) <i>Project Management</i>	3
<b>FMI-IN0048</b>	Rechnersehen II <i>Computer Vision II</i>	6
<b>FMI-IN0067</b>	Mobiler Code <i>Mobile Code</i>	3
<b>FMI-IN0078</b>	Informationssysteme in mobilen und drahtlosen Umgebungen <i>Information systems in mobile and wireless environments</i>	3

<b>FMI-IN0138</b>	Visualisierung - 6 LP <i>Vizualisation - 6 BP</i>	6
<b>FMI-IN0140</b>	Management of Scientific Data <i>Management of Scientific Data</i>	6
<b>FMI-MA0244</b>	Gewöhnliche Differentialgleichungen <i>Ordinary Differential Equations</i>	6
<b>MED-MDS005</b>	Klinische Anwendungen <i>Clinical Applications</i>	6
<b>Mostly summer semester</b>		
<b>FMI-BI0013</b>	Beruf und Karriere für Bioinformatiker <i>Job and career for Bioinformaticians</i>	1
<b>Spanning two semesters, starting winter</b>		
<b>MED-MDS004</b>	Angewandte Statistik in der Medizin <i>Applied Medical Statistics</i>	12
<b>Spanning two semesters, starting summer</b>		
<b>MED-MDS001</b>	Medizinische Grundlagen <i>Medical Basics</i>	6
<b>Rotation not exactly specified</b>		
<b>FMI-BI0043</b>	Methoden der Hochdurchsatzsequenzierung -theoretischer Teil <i>High Throughput Sequencing Methods</i>	3
<b>Courses offered very irregularly</b>		
<b>FMI-BI0002</b>	Algorithmische Phylogenetik <i>Algorithmic Phylogenetics</i>	6
<b>FMI-BI0006</b>	Mathematische Biologie I <i>Mathematical Biology I</i>	6
<b>FMI-BI0008</b>	Algorithmische Massenspektrometrie <i>Computational mass spectrometry</i>	6
<b>FMI-BI0009</b>	Sequenzanalyse <i>Sequence Analysis</i>	6
<b>FMI-BI0011</b>	Bioinformatische Methoden in der Genomforschung <i>Computational Genomics</i>	6
<b>FMI-BI0019</b>	Optimalitätsprinzipien in der Evolution <i>Optimality principles in evolution</i>	6
<b>FMI-BI0025</b>	Evolutionäre Algorithmen <i>Evolutionary Algorithms</i>	6
<b>FMI-BI0046</b>	RNA Bioinformatik (theoretischer Teil) <i>RNA Bioinformatics (theoretical chapter)</i>	3
<b>FMI-BI0047</b>	RNA Bioinformatik Praktikum <i>RNA Bioinformatics - Practical Course</i>	4
<b>FMI-BI0049</b>	Methoden der Hochdurchsatzsequenzierung - Praktikum <i>High Throughput Sequencing Methods - Practical Course</i>	4
<b>FMI-BI0053</b>	Bildbasierte Systembiologie <i>Image-based Systems Biology</i>	6
<b>FMI-IN0009</b>	Datenbanksysteme II <i>Database Systems II</i>	6
<b>FMI-IN0011</b>	Datenbanksysteme Spezialisierung <i>Database Systems Specialization</i>	3
<b>FMI-IN0017</b>	Einführung in die Künstliche Intelligenz <i>Introduction to Artificial Intelligence</i>	6
<b>FMI-IN0023</b>	Grundlagen und Techniken der Constraint-Programmierung <i>Theory and Practice of Constraint Programming</i>	6
<b>FMI-IN0028</b>	Komplexitätstheorie - 6 LP <i>Computational Complexity - 6 CP</i>	6
<b>FMI-IN0031</b>	Komplexitätstheorie - 3 LP <i>Computational Complexity</i>	3



<b>FMI-IN0032</b>	Literaturarbeit und Präsentation (ASQ) <i>Literature research and presentation</i>	3
<b>FMI-IN0033</b>	Logiksysteme <i>Logical Systems</i>	6
<b>FMI-IN0059</b>	Verteilte Systeme Spezialisierung II <i>Distributed Systems Specialization II</i>	6
<b>FMI-IN0082</b>	Logik und Beweisbarkeit <i>Logic and Provability</i>	6
<b>FMI-IN0084</b>	Zustandsschätzung und Aktionsauswahl <i>State Estimation and Action Selection</i>	6
<b>FMI-IN0086</b>	Werkzeuge der Mustererkennung und des Maschinellen Lernens <i>Tools for Pattern Recognition and Machine Learning</i>	3
<b>FMI-IN0102</b>	Algorithm Engineering Lab <i>Algorithm Engineering Lab</i>	6
<b>FMI-IN0126</b>	Hochleistungsrechnen <i>High-Performance Computing</i>	6
<b>FMI-IN0156</b>	Einführung in tiefe Lernverfahren <i>Introductory Course on Deep Learning</i>	3
<b>FMI-IN0158</b>	Algorithmisches Beweisen <i>Proof Complexity and Solving</i>	6
<b>FMI-IN0159</b>	Algorithmisches Beweisen LAB <i>Proof Complexity and Solving LAB</i>	4
<b>FMI-IN0160</b>	Komplexitätstheorie LAB <i>Computational Complexity LAB</i>	4
<b>FMI-IN0162</b>	Kryptologie LAB <i>Cryptology LAB</i>	4
<b>FMI-IN0165</b>	Medizinische Visualisierung <i>Medical Visualization</i>	6
<b>FMI-IN0206</b>	Begleitseminar zu einer Veranstaltung der Informatik (ASQ) <i>Companion Seminar for Computer Science Events</i>	3
<b>FMI-IN0208</b>	Grundlagen und Techniken der Netzwerkanalyse (ASQ) <i>Essentials and Techniques of Network Analysis</i>	6
<b>FMI-IN0211</b>	Lehren von Informatik - Lernen von Informatik <i>Teaching and Learning of Computer Science</i>	3
<b>FMI-IN0212</b>	Grundlagen der Prozessmodellierung und des Prozessmanagements <i>Introduction to Business Process Modeling and Management</i>	6
<b>FMI-IN3201</b>	Mastermodul Computervisualistik I - 3 LP <i>Master Module Computer Visualistics I - 3 CP</i>	3
<b>FMI-IN3202</b>	Mastermodul Computervisualistik II - 3 LP <i>Master Module Computer Visualistics II - 3 CP</i>	3
<b>FMI-IN3209</b>	Mastermodul Computervisualistik I - 6 LP <i>Master Module Computer Visualistics I - 6 CP</i>	6
<b>FMI-IN3210</b>	Mastermodul Computervisualistik II - 6 LP <i>Master Module Computer Visualistics II - 6 CP</i>	6
<b>FMI-IN3217</b>	Mastermodul Computervisualistik I - 9 LP <i>Master Module Computer Visualistics V - 6 CP</i>	9
<b>FMI-IN3221</b>	Mastermodul Data Science I - 3 LP <i>Master Module Data Science I - 3 CP</i>	3
<b>FMI-IN3222</b>	Mastermodul Data Science II - 3 LP <i>Master Module Data Science II - 3 CP</i>	3
<b>FMI-IN3229</b>	Mastermodul Data Science I - 6 LP <i>Master Module Data Science I - 6 CP</i>	6
<b>FMI-IN3230</b>	Mastermodul Data Science II - 6 LP <i>Master Module Data Science II - 6 CP</i>	6
<b>FMI-IN3237</b>	Mastermodul Data Science I - 9 LP <i>Master Module Data Science I - 9 CP</i>	9

<b>FMI-IN3238</b>	Mastermodul Data Science II - 9 LP <i>Master Module Data Science II - 9 CP</i>	9
<b>FMI-IN3241</b>	Mastermodul Künstliche Intelligenz I - 3 LP <i>Master Module Artificial Intelligence I - 3 CP</i>	3
<b>FMI-IN3242</b>	Mastermodul Künstliche Intelligenz II - 3 LP <i>Master Module Artificial Intelligence II - 3 CP</i>	3
<b>FMI-IN3249</b>	Mastermodul Künstliche Intelligenz I - 6 LP <i>Master Module Artificial Intelligence I - 6 CP</i>	6
<b>FMI-IN3250</b>	Mastermodul Künstliche Intelligenz II - 6 LP <i>Master Module Artificial Intelligence II - 6 CP</i>	6
<b>FMI-IN3257</b>	Mastermodul Künstliche Intelligenz I - 9 LP <i>Master Module Data Science I - 9 CP</i>	9
<b>FMI-IN3261</b>	Mastermodul Maschinelles Lernen I - 3 LP <i>Master Module Machine Learning I - 3 CP</i>	3
<b>FMI-IN3262</b>	Mastermodul Maschinelles Lernen II - 3 LP <i>Master Module Machine Learning II - 3 CP</i>	3
<b>FMI-IN3267</b>	Mastermodul Maschinelles Lernen I - 6 LP <i>Master Module Machine Learning I - 6 CP</i>	6
<b>FMI-IN3268</b>	Mastermodul Maschinelles Lernen II - 6 LP <i>Master Module Machine Learning II - 6 CP</i>	6
<b>FMI-IN3277</b>	Mastermodul Maschinelles Lernen I - 9 LP <i>Master Module Machine Learning I - 9 CP</i>	9
<b>FMI-IN3278</b>	Mastermodul Maschinelles Lernen II - 9 LP <i>Master Module Machine Learning II - 9 CP</i>	9
<b>FMI-IN3301</b>	Mastermodul Computational Science I - 3 LP <i>Master Module Computational Science I - 3 CP</i>	3
<b>FMI-IN3302</b>	Mastermodul Computational Science II - 3 LP <i>Master Module Computational Science II - 3 CP</i>	3
<b>FMI-IN3307</b>	Mastermodul Computational Science I - 6 LP <i>Master Module Computational Science I - 6 CP</i>	6
<b>FMI-IN3308</b>	Mastermodul Computational Science II - 6 LP <i>Master Module Computational Science II - 6 CP</i>	6
<b>FMI-IN3313</b>	Mastermodul Computational Science I - 9 LP <i>Master Module Computational Science I - 9 CP</i>	9
<b>FMI-IN3314</b>	Mastermodul Computational Science II - 9 LP <i>Master Module Computational Science II - 9 CP</i>	9
<b>FMI-IN3316</b>	Mastermodul Computer Vision I - 3 LP <i>Master Module Computer Vision I - 3 CP</i>	3
<b>FMI-IN3317</b>	Mastermodul Computer Vision II - 3 LP <i>Master Module Computer Vision II - 3 CP</i>	3
<b>FMI-IN3323</b>	Mastermodul Computer Vision I - 6 LP <i>Master Module Computer Vision I - 6 CP</i>	6
<b>FMI-IN3324</b>	Mastermodul Computer Vision II - 6 LP <i>Master Module Computer Vision II - 6 CP</i>	6
<b>FMI-IN3328</b>	Mastermodul Computer Vision I - 9 LP <i>Master Module Computer Vision I - 9 CP</i>	9
<b>FMI-IN3329</b>	Mastermodul Computer Vision II - 9 LP <i>Master Module Computer Vision II - 9 CP</i>	9
<b>FMI-IN3331</b>	Mastermodul High-Performance Computing I - 3 LP <i>Master Module High-Performance Computing I - 3 CP</i>	3
<b>FMI-IN3332</b>	Mastermodul High-Performance Computing II - 3 LP <i>Master Module High-Performance Computing II - 3 CP</i>	3
<b>FMI-IN3337</b>	Mastermodul High-Performance Computing I - 6 LP <i>Master Module High-Performance Computing I - 6 CP</i>	6
<b>FMI-IN3338</b>	Mastermodul High-Performance Computing II - 6 LP <i>Master Module High-Performance Computing II - 6 CP</i>	6

<b>FMI-IN3343</b>	Mastermodul High-Performance Computing I - 9 LP <i>Master Module High-Performance Computing I - 9 CP</i>	9
<b>FMI-IN3344</b>	Mastermodul High-Performance Computing II - 9 LP <i>Master Module High-Performance Computing II - 9 CP</i>	9
<b>FMI-IN3346</b>	Mastermodul Informations- und Softwaresysteme I - 3 LP <i>Master Module Information and Software Systems I - 3 CP</i>	3
<b>FMI-IN3347</b>	Mastermodul Informations- und Softwaresysteme II - 3 LP <i>Master Module Information and Software Systems II - 3 CP</i>	3
<b>FMI-IN3353</b>	Mastermodul Informations- und Softwaresysteme I - 6 LP <i>Master Module Information and Software Systems I - 6 CP</i>	6
<b>FMI-IN3354</b>	Mastermodul Informations- und Softwaresysteme II - 6 LP <i>Master Module Information and Software Systems II - 6 CP</i>	6
<b>FMI-IN3358</b>	Mastermodul Informations- und Softwaresysteme I - 9 LP <i>Master Module Information and Software Systems I - 9 CP</i>	9
<b>FMI-IN3359</b>	Mastermodul Informations- und Softwaresysteme II - 9 LP <i>Master Module Information and Software Systems II - 9 CP</i>	9
<b>FMI-IN3361</b>	Mastermodul Programmiersprachen und Programmierung I - 3 LP <i>Master Module Programming Languages and Programming I - 3 CP</i>	3
<b>FMI-IN3362</b>	Mastermodul Programmiersprachen und Programmierung II - 3 LP <i>Master Module Programming Languages and Programming II - 3 CP</i>	3
<b>FMI-IN3368</b>	Mastermodul Programmiersprachen und Programmierung I - 6 LP <i>Master Module Programming Languages and Programming I - 6 CP</i>	6
<b>FMI-IN3369</b>	Mastermodul Programmiersprachen und Programmierung II - 6 LP <i>Master Module Programming Languages and Programming II - 6 CP</i>	6
<b>FMI-IN3374</b>	Mastermodul Programmiersprachen und Programmierung I - 9 LP <i>Master Module Programming Languages and Programming I - 9 CP</i>	9
<b>FMI-IN3376</b>	Mastermodul Systemsoftware I - 3 LP <i>Master Module System Software I - 3 CP</i>	3
<b>FMI-IN3377</b>	Mastermodul Systemsoftware II - 3 LP <i>Master Module System Software II - 3 CP</i>	3
<b>FMI-IN3383</b>	Mastermodul Systemsoftware I - 6 LP <i>Master Module Programming System Software I - 6 CP</i>	6
<b>FMI-IN3384</b>	Mastermodul Systemsoftware II - 6 LP <i>Master Module Programming System Software II - 6 CP</i>	6
<b>FMI-IN3388</b>	Mastermodul Systemsoftware I - 9 LP <i>Master Module System Software I - 9 CP</i>	9
<b>FMI-IN3389</b>	Mastermodul Systemsoftware II - 9 LP <i>Master Module System Software II - 9 CP</i>	9
<b>FMI-IN3401</b>	Mastermodul Algorithmik I - 3 LP <i>Master Module Algorithms I - 3 CP</i>	3
<b>FMI-IN3402</b>	Mastermodul Algorithmik II - 3 LP <i>Master Module Algorithms II - 3 CP</i>	3
<b>FMI-IN3407</b>	Mastermodul Algorithmik I - 6 LP <i>Master Module Algorithms I - 6 CP</i>	6
<b>FMI-IN3408</b>	Mastermodul Algorithmik II - 6 LP <i>Master Module Algorithms II - 6 CP</i>	6
<b>FMI-IN3415</b>	Mastermodul Algorithmik I - 9 LP <i>Master Module Algorithms I - 9 CP</i>	9
<b>FMI-IN3416</b>	Mastermodul Algorithmik II - 9 LP <i>Master Module Algorithms II - 9 CP</i>	9
<b>FMI-IN3421</b>	Mastermodul Komplexität I - 3 LP <i>Master Module Computational Complexity I - 3 CP</i>	3
<b>FMI-IN3422</b>	Mastermodul Komplexität II - 3 LP <i>Master Module Computational Complexity II - 3 CP</i>	3
<b>FMI-IN3427</b>	Mastermodul Komplexität I - 6 LP <i>Master Module Computational Complexity I - 6 CP</i>	6

<b>FMI-IN3428</b>	Mastermodul Komplexität II - 6 LP <i>Master Module Computational Complexity II - 6 CP</i>	6
<b>FMI-IN3435</b>	Mastermodul Komplexität I - 9 LP <i>Master Module Computational Complexity I - 9 CP</i>	9
<b>FMI-IN3436</b>	Mastermodul Komplexität II - 9 LP <i>Master Module Computational Complexity II - 9 CP</i>	9
<b>FMI-IN3441</b>	Mastermodul Lerntheorie I - 3 LP <i>Master Module Learning Theory I - 3 CP</i>	3
<b>FMI-IN3442</b>	Mastermodul Lerntheorie II - 3 LP <i>Master Module Learning Theory II - 3 CP</i>	3
<b>FMI-IN3447</b>	Mastermodul Lerntheorie I - 6 LP <i>Master Module Learning Theory I - 6 CP</i>	6
<b>FMI-IN3448</b>	Mastermodul Lerntheorie II - 6 LP <i>Master Module Learning Theory II - 6 CP</i>	6
<b>FMI-IN3455</b>	Mastermodul Lerntheorie I - 9 LP <i>Master Module Learning Theory I - 9 CP</i>	9
<b>FMI-IN3456</b>	Mastermodul Lerntheorie II - 9 LP <i>Master Module Learning Theory II - 9 CP</i>	9
<b>FMI-IN3461</b>	Mastermodul Logik I - 3 LP <i>Master Module Logic I - 3 CP</i>	3
<b>FMI-IN3462</b>	Mastermodul Logik II - 3 LP <i>Master Module Logic II - 3 CP</i>	3
<b>FMI-IN3467</b>	Mastermodul Logik I - 6 LP <i>Master Module Logic I - 6 CP</i>	6
<b>FMI-IN3468</b>	Mastermodul Logik II - 6 LP <i>Master Module Logic II - 6 CP</i>	6
<b>FMI-IN3475</b>	Mastermodul Logik I - 9 LP <i>Master Module Logic I - 9 CP</i>	9
<b>FMI-IN3476</b>	Mastermodul Logik II - 9 LP <i>Master Module Logic II - 9 CP</i>	9
<b>FMI-MA0905</b>	Wirtschaftskompetenz B (ASQ) <i>Business Skills B</i>	3
<b>FMI-SQ0101</b>	ASQ-Modul Programmiersprachen und Programmierung I - 3 LP <i>ASQ Module Programming Languages and Programming I - 3 CP</i>	3
<b>FMI-SQ0102</b>	ASQ-Modul Programmiersprachen und Programmierung II - 3 LP <i>ASQ Module Programming Languages and Programming II - 3 CP</i>	3
<b>FMI-SQ0105</b>	ASQ-Modul Programmiersprachen und Programmierung I - 6 LP <i>ASQ Module Programming Languages and Programming I - 6 CP</i>	6
<b>FMI-SQ0106</b>	ASQ-Modul Programmiersprachen und Programmierung II - 6 LP <i>ASQ Module Programming Languages and Programming II - 6 CP</i>	6
<b>FMI-SQ0121</b>	ASQ-Modul Skriptsprachen I - 4 LP <i>ASQ Module Scripting Languages I - 4 CP</i>	4
<b>FMI-SQ0122</b>	ASQ-Modul Skriptsprachen II - 4 LP <i>ASQ Module Scripting Languages II - 4 CP</i>	4
<b>FMI-SQ0125</b>	ASQ-Modul LaTeX Grundlagen für Naturwissenschaftler und Informatiker - 4 LP <i>ASQ Module Introduction to LaTeX for Scientists</i>	4
<b>FMI-SQ0130</b>	Datenanalyse mit R <i>Data Analysis with R</i>	6
<b>FMI-SQ0131</b>	Funktionale Programmierung <i>ASQ Module Functional Programming</i>	3
<b>FMI-SQ0201</b>	ASQ-Modul Wirtschaftskompetenz I - 3 LP <i>ASQ Module Business Skills I - 3 CP</i>	3
<b>FMI-SQ0202</b>	ASQ-Modul Wirtschaftskompetenz II - 3 LP <i>ASQ Module Business Skills II - 3 CP</i>	3
<b>FMI-SQ0211</b>	ASQ-Modul Projektmanagement <i>ASQ Module Project Management</i>	3

<b>FMI-SQ0301</b>	ASQ-Modul Zahlengefühl und Strukturgefühl - 3 LP <i>ASQ Module Number Feeling and Structure Feeling - 3 CP</i>	3
<b>FMI-SQ0302</b>	ASQ-Modul Zahlengefühl und Strukturgefühl - 6 LP <i>ASQ Module Number Feeling and Structure Feeling - 6 CP</i>	6
<b>FMI-SQ0303</b>	Go - Ein mathematisches Strategiespiel <i>Go - a mathematical strategic board game</i>	6
<b>FMI-SQ0501</b>	ASQ-Modul Informatik und Gesellschaft <i>ASQ Module Informatics and Society</i>	3

# Recommended Modules of Studies for Guest Students:

## Computer Science / Teacher Training

All modules for teacher training are taught in German.

All modules span one semester—unless stated otherwise in the module list (“spanning two semesters”).

Module	Title	ECTS
<b>Every semester</b>		
<b>FMI-IN0144</b>	Fortgeschrittenes Programmierpraktikum <i>Advanced Labs for Computer Science</i>	3
<b>FMI-IN3003</b>	Seminar <i>Seminar</i>	3
<b>Winter semester</b>		
<b>FMI-IN0005</b>	Automaten und Berechenbarkeit <i>Automata and Computability</i>	9
<b>FMI-IN0013</b>	Diskrete Strukturen I <i>Discrete Structures I</i>	6
<b>FMI-IN0025</b>	Grundlagen informatischer Problemlösung <i>Foundations of Computational Problem Solving</i>	9
<b>FMI-IN0034</b>	Maschinelles Lernen und Datamining <i>Machine Learning and Datamining</i>	6
<b>FMI-IN0119</b>	Algorithm Engineering <i>Algorithm Engineering</i>	6
<b>FMI-IN0136</b>	Parallel Computing I <i>Parallel Computing I</i>	6
<b>FMI-IN2000</b>	Datenbanken und Informationssysteme <i>Database and Information Systems</i>	6
<b>Mostly winter semester</b>		
<b>FMI-IN0060</b>	Verteilte Systeme <i>Distributed Systems and Web Development</i>	6
<b>Summer semester</b>		
<b>FMI-IN0001</b>	Algorithmen und Datenstrukturen <i>Algorithms and Data Structures</i>	9
<b>FMI-IN0014</b>	Diskrete Strukturen II <i>Discrete Structures II</i>	6
<b>FMI-IN0021</b>	Grundlagen der Informations- und Softwaresysteme <i>Foundations of Information- and Softwaresystems</i>	6
<b>FMI-IN0036</b>	Mustererkennung <i>Pattern Recognition</i>	6
<b>FMI-IN0075</b>	Objektorientierte Programmierung <i>Object-oriented Programming</i>	5
<b>FMI-IN0076</b>	Deklarative Programmierung <i>Declarative Programming</i>	4
<b>FMI-IN0137</b>	Parallel Computing II <i>Parallel Computing II</i>	6
<b>FMI-IN3004</b>	Mathematik für Informatik-Lehrer <i>Mathematics for School-Teachers</i>	6
<b>FMI-IN4001</b>	Didaktik der Informatik A <i>Didactics for Informatics A</i>	6
<b>Courses offered very irregularly</b>		
<b>FMI-IN0016</b>	Einführung in die Bildinformatik <i>Introduction to Visual Computing</i>	6

<b>FMI-IN0017</b>	Einführung in die Künstliche Intelligenz <i>Introduction to Artificial Intelligence</i>	6
<b>FMI-IN0030</b>	Kryptologie <i>Cryptology</i>	6
<b>FMI-IN0033</b>	Logiksysteme <i>Logical Systems</i>	6
<b>FMI-IN0095</b>	Algorithmische Geometrie I <i>Computational Geometry I</i>	6
<b>FMI-IN0163</b>	Projekt - Paralleles Rechnen <i>Project - Parallel Computing</i>	6
<b>FMI-IN3008</b>	Software- und Systementwicklung <i>Software and System Development</i>	6
<b>FMI-IN3011</b>	Informatik und Gesellschaft <i>Informatics and Society</i>	6