



Academic year 2026-2027

Master in Informatics (MSI)

The study plan and course descriptions provide an overview of the programme's structure and content, and may be subject to changes. In case a study programme offers multiple specialisations or streams, these are presented consecutively within the same document.

Major in Artificial Intelligence

Study Plan

1st semester (SA 2026-2027)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
Algorithms & Complexity	Papadopoulou		6
Distributed Systems	Eugster		6
High-Performance Computing	Schenk, Eftekhari		6
Machine Learning (MSc)	Wand		6
Software Design & Modeling	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
Advanced Java Programming	Binder, Rosà	Programming languages	6
Computer Aided Verification	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
Data Analytics for Fraud Detection	Pasidakis, Sathe	Data Science	3
Deep Learning Lab	Vercesi	Artificial Intelligence	3
Distributed Algorithms	Pedone	Computer Systems; Information Systems	6
Edge Computing in the IoT	Ferrante	Computer Systems	6
Engineering AI Systems	Miller		6
Generative AI	Engelmann		6
Graph Deep Learning	Alippi	Artificial Intelligence	3
Introduction to Data Science (MSc)	Wit	Data Science	6
Numerical Algorithms	Hormann	Theory and Algorithms	6
Programming Styles	Hauswirth	Programming languages; Software Development	3
Software Performance	Hauswirth	Programming languages; Software Development	6
User Experience Design	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

2nd semester (SP 2027)

Elective courses (30 ECTS)	Lecturers	Tags	ECTS
Advanced Graphics for Visual Computing	Didyk		6

<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Data Analytics</u>	Bucur-Cosma	Data Science; Information Systems	6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Free-choice courses			6

3rd semester (SA 2027-2028)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6

<u>Engineering AI Systems</u>	Miller		6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Generative AI</u>	Engelmann		6
<u>Geometry Processing</u>	Hormann	Geometric and Visual Computing	3
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Mobile and Wearable Computing</u>	Santini	Computer Systems; Information Systems	6
<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

4th semester (SP 2028)

Core courses (6 ECTS)	Lecturers	Tags	ECTS
<u>Information Security</u>	Langheinrich		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Advanced Topics in Machine Learning</u>	Alippi	Artificial Intelligence	3
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Information Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Data Analytics</u>	Bucur-Cosma	Information Systems	6
<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6

<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Master Thesis		Artificial Intelligence; Computer Systems; Geometric and Visual Computing; Information Systems; Programming languages; Software Development; Theory and Algorithms	30
Free-choice courses			6
Students have the possibility to obtain a major/minor Major in Artificial Intelligence upon completion of 18 ECTS of "Artificial Intelligence" tagged courses or activities.			

Major in Computer Systems

Study Plan

1st semester (SA 2026-2027)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasidakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Generative AI</u>	Engelmann		6
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

2nd semester (SP 2027)

Elective courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Data Analytics</u>	Bucur-Cosma	Data Science; Information Systems	6
<u>Foundations of Cryptography</u>	Backendal		6

<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Free-choice courses			6

3rd semester (SA 2027-2028)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Generative AI</u>	Engelmann		6
<u>Geometry Processing</u>	Hormann	Geometric and Visual Computing	3
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Mobile and Wearable Computing</u>	Santini	Computer Systems; Information Systems	6

<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6
4th semester (SP 2028)			
Core courses (6 ECTS)	Lecturers	Tags	ECTS
<u>Information Security</u>	Langheinrich		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Advanced Topics in Machine Learning</u>	Alippi	Artificial Intelligence	3
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Information Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Data Analytics</u>	Bucur-Cosma	Information Systems	6
<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Master Thesis		Artificial Intelligence; Computer Systems; Geometric and Visual Computing; Information Systems; Programming languages; Software Development; Theory and Algorithms	30

Free-choice courses6

Students have the possibility to obtain a major/minor **Major in Computer Systems** upon completion of **18 ECTS** of **"Computer Systems"** tagged courses or activities.

Major in Data Science

Study Plan

1st semester (SA 2026-2027)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Generative AI</u>	Engelmann		6
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

2nd semester (SP 2027)

Elective courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Data Analytics</u>	Bucur-Cosma	Data Science; Information Systems	6
<u>Foundations of Cryptography</u>	Backendal		6

<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Free-choice courses			6

3rd semester (SA 2027-2028)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Generative AI</u>	Engelmann		6
<u>Geometry Processing</u>	Hormann	Geometric and Visual Computing	3
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Mobile and Wearable Computing</u>	Santini	Computer Systems; Information Systems	6

<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

4th semester (SP 2028)

Core courses (6 ECTS)	Lecturers	Tags	ECTS
<u>Information Security</u>	Langheinrich		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Advanced Topics in Machine Learning</u>	Alippi	Artificial Intelligence	3
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Information Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Data Analytics</u>	Bucur-Cosma	Information Systems	6
<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Master Thesis			30
			Artificial Intelligence; Computer Systems; Geometric and Visual Computing; Information Systems; Programming languages; Software Development; Theory and Algorithms

Free-choice courses	6
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Students have the possibility to obtain a major/minor **Major in Data Science** upon completion of **18 ECTS** of "**Data Science**" tagged courses or activities.

Major in Geometric and Visual Computing

Study Plan

1st semester (SA 2026-2027)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Generative AI</u>	Engelmann		6
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

2nd semester (SP 2027)

Elective courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Data Analytics</u>	Bucur-Cosma	Data Science; Information Systems	6
<u>Foundations of Cryptography</u>	Backendal		6

<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Free-choice courses			6

3rd semester (SA 2027-2028)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Generative AI</u>	Engelmann		6
<u>Geometry Processing</u>	Hormann	Geometric and Visual Computing	3
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Mobile and Wearable Computing</u>	Santini	Computer Systems; Information Systems	6

<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

4th semester (SP 2028)

Core courses (6 ECTS)	Lecturers	Tags	ECTS
<u>Information Security</u>	Langheinrich		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Advanced Topics in Machine Learning</u>	Alippi	Artificial Intelligence	3
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Information Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Data Analytics</u>	Bucur-Cosma	Information Systems	6
<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Master Thesis			30
			Artificial Intelligence; Computer Systems; Geometric and Visual Computing; Information Systems; Programming languages; Software Development; Theory and Algorithms

Free-choice courses6

Students have the possibility to obtain a major/minor **Major in Geometric and Visual Computing** upon completion of **18 ECTS** of "**Geometric and Visual Computing**" tagged courses or activities.

Major in Information Systems

Study Plan

1st semester (SA 2026-2027)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Generative AI</u>	Engelmann		6
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

2nd semester (SP 2027)

Elective courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Data Analytics</u>	Bucur-Cosma	Data Science; Information Systems	6
<u>Foundations of Cryptography</u>	Backendal		6

<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Free-choice courses			6

3rd semester (SA 2027-2028)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Generative AI</u>	Engelmann		6
<u>Geometry Processing</u>	Hormann	Geometric and Visual Computing	3
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Mobile and Wearable Computing</u>	Santini	Computer Systems; Information Systems	6

<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

4th semester (SP 2028)

Core courses (6 ECTS)	Lecturers	Tags	ECTS
<u>Information Security</u>	Langheinrich		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Advanced Topics in Machine Learning</u>	Alippi	Artificial Intelligence	3
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Information Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Data Analytics</u>	Bucur-Cosma	Information Systems	6
<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Master Thesis			30
			Artificial Intelligence; Computer Systems; Geometric and Visual Computing; Information Systems; Programming languages; Software Development; Theory and Algorithms

Free-choice courses	6
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Students have the possibility to obtain a major/minor **Major in Information Systems** upon completion of **18 ECTS** of **"Information Systems"** tagged courses or activities.

Major in Programming Languages

Study Plan

1st semester (SA 2026-2027)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Generative AI</u>	Engelmann		6
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

2nd semester (SP 2027)

Elective courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Data Analytics</u>	Bucur-Cosma	Data Science; Information Systems	6
<u>Foundations of Cryptography</u>	Backendal		6

<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Free-choice courses			6

3rd semester (SA 2027-2028)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Generative AI</u>	Engelmann		6
<u>Geometry Processing</u>	Hormann	Geometric and Visual Computing	3
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Mobile and Wearable Computing</u>	Santini	Computer Systems; Information Systems	6

<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

4th semester (SP 2028)

Core courses (6 ECTS)	Lecturers	Tags	ECTS
<u>Information Security</u>	Langheinrich		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Advanced Topics in Machine Learning</u>	Alippi	Artificial Intelligence	3
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Information Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Data Analytics</u>	Bucur-Cosma	Information Systems	6
<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Master Thesis		Artificial Intelligence; Computer Systems; Geometric and Visual Computing; Information Systems; Programming languages; Software Development; Theory and Algorithms	30

Free-choice courses	6
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Students have the possibility to obtain a major/minor **Major in Programming Languages** upon completion of **18 ECTS** of **"Programming languages"** tagged courses or activities.

Major in Software Development

Study Plan

1st semester (SA 2026-2027)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasidakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Generative AI</u>	Engelmann		6
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

2nd semester (SP 2027)

Elective courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Data Analytics</u>	Bucur-Cosma	Data Science; Information Systems	6
<u>Foundations of Cryptography</u>	Backendal		6

<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Free-choice courses			6

3rd semester (SA 2027-2028)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Generative AI</u>	Engelmann		6
<u>Geometry Processing</u>	Hormann	Geometric and Visual Computing	3
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Mobile and Wearable Computing</u>	Santini	Computer Systems; Information Systems	6

<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

4th semester (SP 2028)

Core courses (6 ECTS)	Lecturers	Tags	ECTS
<u>Information Security</u>	Langheinrich		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Advanced Topics in Machine Learning</u>	Alippi	Artificial Intelligence	3
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Information Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Data Analytics</u>	Bucur-Cosma	Information Systems	6
<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Master Thesis			30
			Artificial Intelligence; Computer Systems; Geometric and Visual Computing; Information Systems; Programming languages; Software Development; Theory and Algorithms

Free-choice courses	6
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Students have the possibility to obtain a major/minor **Major in Software Development** upon completion of **18 ECTS** of **"Software Development"** tagged courses or activities.

Major in Theory and Algorithms

Study Plan

1st semester (SA 2026-2027)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Generative AI</u>	Engelmann		6
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

2nd semester (SP 2027)

Elective courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Data Analytics</u>	Bucur-Cosma	Data Science; Information Systems	6
<u>Foundations of Cryptography</u>	Backendal		6

<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Free-choice courses			6

3rd semester (SA 2027-2028)

Core courses (30 ECTS)	Lecturers	Tags	ECTS
<u>Algorithms & Complexity</u>	Papadopoulou		6
<u>Distributed Systems</u>	Eugster		6
<u>High-Performance Computing</u>	Schenk, Eftekhari		6
<u>Machine Learning (MSc)</u>	Wand		6
<u>Software Design & Modeling</u>	Furia		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Graphics for Visual Computing</u>	Didyk		6
<u>Advanced Java Programming</u>	Binder, Rosà	Programming languages	6
<u>Computer Aided Verification</u>	Sharygina	Computer Systems; Software Development; Theory and Algorithms	6
<u>Data Analytics for Fraud Detection</u>	Pasadakis, Sathe	Data Science	3
<u>Deep Learning Lab</u>	Vercesi	Artificial Intelligence	3
<u>Distributed Algorithms</u>	Pedone	Computer Systems; Information Systems	6
<u>Edge Computing in the IoT</u>	Ferrante	Computer Systems	6
<u>Engineering AI Systems</u>	Miller		6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Generative AI</u>	Engelmann		6
<u>Geometry Processing</u>	Hormann	Geometric and Visual Computing	3
<u>Graph Deep Learning</u>	Alippi	Artificial Intelligence	3
<u>Introduction to Data Science (MSc)</u>	Wit	Data Science	6
<u>Mobile and Wearable Computing</u>	Santini	Computer Systems; Information Systems	6

<u>Numerical Algorithms</u>	Hormann	Theory and Algorithms	6
<u>Programming Styles</u>	Hauswirth	Programming languages; Software Development	3
<u>Software Performance</u>	Hauswirth	Programming languages; Software Development	6
<u>User Experience Design</u>	Landoni, Langheinrich	Information Systems	6
Free-choice courses			6

4th semester (SP 2028)

Core courses (6 ECTS)	Lecturers	Tags	ECTS
<u>Information Security</u>	Langheinrich		6
Elective courses (15 ECTS)	Lecturers	Tags	ECTS
<u>Advanced Networking</u>	Carzaniga	Computer Systems	6
<u>Advanced Topics in Machine Learning</u>	Alippi	Artificial Intelligence	3
<u>Business Process Modeling, Management and Mining</u>	Pautasso	Information Systems	3
<u>Computer Architectures and Logic Design</u>	Pozzi	Computer Systems; Information Systems; Programming languages	6
<u>Computer Vision</u>	Engelmann	Artificial Intelligence; Geometric and Visual Computing	6
<u>Foundations of Cryptography</u>	Backendal		6
<u>Data Analytics</u>	Bucur-Cosma	Information Systems	6
<u>Effective High-Performance Computing & Data Analytics</u>	Schenk	Data Science	6
<u>Geometric Algorithms</u>	Papadopoulou	Geometric and Visual Computing; Theory and Algorithms	6
<u>Graphical Models</u>	Wit	Data Science	6
<u>Image and Video Processing</u>	Didyk	Geometric and Visual Computing	6
<u>Information & Physics</u>	Wolf	Theory and Algorithms	3
<u>Quantum Computing</u>	Wolf	Theory and Algorithms	6
<u>Robotics</u>	Giusti	Artificial Intelligence; Geometric and Visual Computing	6
<u>Security Aspects of Machine Learning</u>	Regazzoni	Artificial Intelligence	3
<u>Software Analysis</u>	Furia	Programming languages; Software Development	6
<u>Software Architecture</u>	Pautasso	Software Development	6
<u>Software Quality & Testing</u>	Pezzè	Software Development	6
<u>Stochastic Methods</u>	Sulem	Data Science	6
Master Thesis		Artificial Intelligence; Computer Systems; Geometric and Visual Computing; Information Systems; Programming languages; Software Development; Theory and Algorithms	30

Free-choice courses	6
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Students have the possibility to obtain a major/minor **Major in Theory & Algorithms** upon completion of **18 ECTS** of "**Theory and Algorithms**" tagged courses or activities.
