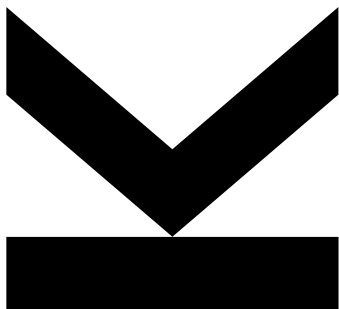


COURSES TAUGHT IN ENGLISH



The courses listed in this brochure refer to the academic year 2019/20.

For up-to-date course information, please go to

<http://www.jku.at/exchange/courses>

Bachelor study programmes taught in English:

- Artificial Intelligence
- Bioinformatics
- Biological Chemistry
- Chemistry and Chemical Technology

Master study programmes taught in English:

- Artificial Intelligence
- Bioinformatics
- Biological Chemistry
- Chemistry and Chemical Technology
- Comparative Social Policy and Welfare
- Computer Science
- Economic and Business Analytics
- Economics
- General Management
- Leading Innovative Organizations
- Management
- Management in Polymer Technologies
- Management in Chemical Technologies
- Molecular Biology
- Polymer Chemistry
- Polymer Technologies and Science
- Statistics

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1. Abbreviations

Semester:

WS Winter Semester (October – January)

SS Summer Semester (March – June)

Course Types:

IK Intensive Course

KO Tutorial

KS Course

PJ Project Studies

PR Practical Course

PS Proseminar

SE Seminar

UE Tutorial

VL Lecture

Level (only for General Management courses):

M1 Phase 1

M2 Phase 2

Your level will be determined upon review of your transcript

Workload

A full workload corresponds to 30 ECTS credits per semester.

Exchange students are expected to do a minimum workload of 20 ECTS credits per semester.

2. Faculty of Social Sciences, Business and Economics

2.1. Business Courses – Bachelor Level

Sem.	Title	Course type	ECTS credits
WS	Advanced Production, Logistics and Supply Chain Management	IK	3
WS	Case Studies English (C1) - for non-native speakers only!	KS	3
WS	Cross Cultural Management*	SE	3
WS	Current Issues in International Management*	SE	3
WS	Decision Support in Production, Logistics and Supply Chain Management	SE	3
WS	International Business*	KS	3
WS	International Market Entry*	IK	3
WS	Management Control Systems	IK	3
WS	Managing People and Organizations: Intercultural Cooperation*	IK	2
WS	Management Skills: Creative Abilities	SE	3
WS	Organization and Innovation*	KS	5
WS	Research Seminar in Management Accounting	SE	3
WS	Research Seminar Structures and Behavior	SE	3
WS	Seminar Special Topics English (C2): Strategic Management*	SE	3
WS	Seminar Guest Professor English (C2): Managing Across Cultures – An Examination of Culture and Business*	SE	3
WS	Special Topics in International Management: Migration, Integration and Diversity in Organizations	IK	4
WS	Special Topics in Organization and Innovation - Social Innovation and Social Enterprise Models*	SE	3
SS	Advanced Logistics and Supply Chain Management	IK	2
SS	Advanced Production, Logistics and Supply Chain Management	IK	3
SS	Case Studies English (C1) - for non-native speakers only!	KS	3
SS	Cross Cultural Management	SE	3
SS	Cultural Marketing	SE	3
SS	Current Issues in International Management	SE	3
SS	Decision Support in Production, Logistics and Supply Chain Management	SE	3
SS	Financing Cultural Events	SE	3
SS	Global Accounting and Control: A Managerial Emphasis	KS	4
SS	International Business	KS	4
SS	International Market Entry	IK	4
SS	Management Control Systems	IK	3
SS	Management Skills: Creative Abilities	SE	3
SS	Managing People and Organizations: Intercultural Cooperation	IK	2
SS	Organization and Innovation	KS	5
SS	Research Seminar Structures and Behavior	SE	3
SS	Seminar Business and Culture English (C2)	SE	3

SS	Seminar Guest Professor English (C2): Communicating, leading and managing in situations of cultural and linguistic diversity	SE	3
SS	Special Topics in International Management: International Negotiations	IK	4
SS	Special Topics in Organization and Innovation: Social Innovation and Social Enterprise Models	SE	3

2.2. Economic Courses – Bachelor Level

Sem.	Title	Course type	ECTS credits
WS	Balance of Payments and Exchange Rates	KS	3
WS	Economic Growth	KS	4
WS	Labour Economics	KS	4
WS	Macroeconomics I	KS	4
WS	Managerial Economics	KS	3
WS	Markets and Economic Decision Making	IK	4
WS	Personnel Economics	KS	3
SS	Balance of Payments and Exchange Rates	KS	3
SS	Economics of International Integration	KS	4
SS	Intermediate Econometrics	KS	4
SS	Intermediate Econometrics	IK	2
SS	International Economics, Finance and Macroeconomics	SE	4
SS	Managerial Economics	KS	3
SS	Markets and Economic Decision Making	IK	4

2.3. Other Social Science Courses – Bachelor Level

Sem.	Title	Course type	ECTS credits
WS	Academic Writing English (C1)	KS	3
WS	Case Studies	PS	3
WS	Interdisciplinary Knowledge and Technologies	VL	3
WS	Media and Societies in Europe: for non-native speakers only!	IK	3
WS	Paradigms and Current Trends of Sociological Thought II	SE	6
WS	Reading Course: Global Studies	UE	3
WS	Software Development II	UE	3
WS	Theory of Intercultural Communication*	IK	3
WS	Work Psychology*	SE	4
SS	Academic Writing English	KS	3
SS	Comparative Research in Cultural Studies	KS	3
SS	Comparative Social Policy	KS	3
SS	Culture and Language Policies in the EU	IK	3

SS	Intercultural Skills English (C1)	KS	3
SS	Paradigms and Current Trends of Sociological Thought II	SE	6
SS	Political and Economic Development in Europe	KS	3
SS	Technology and Society	SE	6
SS	Work Psychology	SE	4

Courses which are marked with * will probably end before Christmas.

2.4. Management – Master Level

Sem.	Title	Level**	Course type	ECTS credits
WS	Advances in Leadership, Human Resource Management and Change	M1	KS	6
WS	Corporate Finance	M1	KS	6
WS	Creating Strategic Advantages	M1	KS	6
WS	Financial Accounting	M1	KS	6
WS	Intercultural Competence	M1	SE	2
WS	Introduction to Digital Transformation and Technologies	M1	SE	6
WS	Managerial Accounting	M1	KS	6
WS	Marketing Management	M1	KS	6
WS	Negotiation Skills	M1	SE	2
WS	Organization	M1	KS	6
WS	Presentation, moderation	M1	SE	2
WS	Qualitative Research Methods	M1	SE	3
WS	Quantitative Research Methods	M1	SE	3
WS	Team Development & Group Dynamics	M1	SE	2
WS	Advances Topics in B2B-Marketing	M2	SE	2
WS	Business Models and the impact of Digitalization & Circular Eco	M2	SE	4
WS	Digital Transformation: Continuous Change & Ambidexterity	M2	SE	3
WS	Digital Transformation: Managing Change	M2	SE	4
WS	Global Communication and Social Media	M2	SE	3
WS	Global Marketing	M2	SE	6
WS	Global Strategic Management	M2	SE	3
WS	Human Resource Architectures & Management	M2	SE	4
WS	Leaders, Groups and their Organizational Environment	M2	SE	6
WS	Marketing Instruments	M2	SE	4
WS	Strategic management in dynamic and complex environments	M2	SE	4
WS	Relationship Marketing	M2	SE	2
SS	Advances in Leadership, Human Resource Management and Change	M1	KS	6

SS	Corporate Finance	M1	KS	6
SS	Creating Strategic Advances	M1	KS	6
SS	Financial Accounting	M1	KS	6
SS	Intercultural Competence	M1	SE	2
SS	Introduction to Digital Transformation and Technologies	M1	SE	6
SS	Managerial Accounting	M1	KS	6
SS	Marketing Management	M1	KS	6
SS	Negotiation Skills	M1	SE	2
SS	Organization	M1	KS	6
SS	Presentation and Moderation Skills	M1	SE	2
SS	Qualitative Research Methods	M1	SE	3
SS	Quantitative Research Methods	M1	SE	3
SS	Team Development & Group Dynamics	M1	SE	2
SS	Advanced Topics in B2B-Marketing	M2	SE	2
SS	Digital Transformation: Continuous Change & Ambidexterity	M2	SE	3
SS	Digital Transformation: Managing Change	M2	SE	4
SS	Global Communication and Social Media	M2	SE	3
SS	Global Marketing Management	M2	SE	6
SS	Global Strategic Management	M2	SE	3
SS	Human Resource Architectures & Management	M2	SE	4
SS	Leaders, Groups and their Organizational Environment	M2	SE	6
SS	Marketing Instruments	M2	SE	4
SS	Strategic management in dynamic and complex environments	M2	SE	4
SS	Relationship Marketing	M2	SE	2
SS	Virtual Collaboration in a Global Context	M2	SE	6

** Your level - M1 for phase 1 or M2 for phase 2 - will be determined upon review of your transcript.

Courses which are marked with * will probably end before Christmas.

2.5. Business Informatics – Master Level

Sem.	Title	Course type	ECTS credits
WS	Data Warehousing	UE	3
WS	Data Warehousing	VL	3
WS	Computational Logistics: Optimization	SE	6
SS	Advanced Production, Logistics and Supply Chain Management	IK	3
SS	Computational Logistics Metaheuristics	SE	6

SS	Data Mining	VL	3
SS	Data Mining	UE	3
SS	Decision Support in Production, Logistics and Supply Chain Management	SE	3

2.6. Economic Courses – Master Level

Sem.	Title	Course type	ECTS credits
WS	Advanced Trade Policy	KS	4
WS	Advanced Topics I: The Financing of Corporations	SE	4
WS	Financial Economics and Risk	KS	4
WS	Game Theory	KS	4
WS	Game Theory	IK	2
WS	Mathematics	KS	4
WS	Mathematics	IK	2
WS	Monetary Economics: Theory and Policy	IK	2
WS	Treatment Evaluation	KS	4
WS	Treatment Evaluation	IK	2
SS	Advanced Topics I: Population Economics	SE	4
SS	Financial and Macroeconometrics	KS	4
SS	Macroeconometrics	KS	4
SS	Macroeconomics II	KS	4
SS	Microeconomics	IK	4
SS	Microeconomics II	KS	4
SS	Regulation and Antitrust	KS	4
SS	The Multinational Firm in the Global Economy	KS	4
SS	Welfare Economics	KS	4

2.7. Economics and Business Analytics – Master Level

Sem.	Title	Course type	ECTS credits
SS	Epidemiology and Empirical Health Economics	KS	4
SS	Feminist Economics	KS	4

2.8. Statistics – Master Level

Sem.	Title	Course type	ECTS credits
WS	Advanced Regression Analysis	KV	4
WS	Applied Statistics	SE	6
WS	Biostatistics	KV	4
WS	Computational Statistics	KV	4
WS	Probability Theory	UE	6
WS	Probability Theory	VL	4
WS	Statistical Principles for Data Science	KV	6
WS	Stochastic Processes	KV	4
WS	Survival Analysis	KV	4
SS	Advanced Statistical Inference	UE	6
SS	Advanced Statistical Inference	VL	4
SS	Experimental Design	KV	4
SS	Methods for Statistical Projects	SE	4
SS	Statistical Applications	SE	6
SS	Statistical Learning	KV	4
SS	Statistical Principles of Data Science	KV	6
SS	Statistical Projects	SE	4

2.9. Web Sciences – Master Level

Sem.	Title	Course type	ECTS credits
WS	Current Research Topics in Web Sciences: Media Literacy***	UE	1,5
WS	Internet-based Research Methods (for the Social Sciences)	SE	3
WS	Web Research: Effects of the Web on Society***	SE	4

Courses which are marked with *** are also open for Bachelor students.

3. Faculty of Engineering and Natural Sciences

3.1. Chemistry – Bachelor Level

Sem.	Title	Course type	ECTS credits
WS	Applications of Mathematics in Chemistry with Exercises I	KV	4,5
WS	Applications of Mathematics in Biological Chemistry 1	UE	3
WS	Basic Lab Course in Chemical Process Engineering	PR	2
WS	Basic Lab Course in Organic Technology	PR	2
WS	Biophysics	VL	3
WS	Biophysics Laboratory for Biological Chemistry	PR	3
WS	Chemical Calculations	KV	3
WS	Chemical Laboratory Safety	KV	1
WS	Chemical Process Engineering	VL	3
WS	Chemical Reaction Engineering	VL	1,5
WS	Computational Chemistry	KV	1,5
WS	Data Processing in Chemistry	KV	1,5
WS	Electrochemistry	VL	1,5
WS	Exercises in Bioinformatics for Biological Chemistry & Molecular Biology	UE	3
WS	Exercises in Chemical Reaction Engineering	UE	1,5
WS	Exercises In Physical Chemistry I	UE	1,5
WS	Exercises in Physical Chemistry I Biological Chemistry	UE	1,5
WS	Exercises in Polymer Chemistry	UE	1,5
WS	In-depth fundamentals of Preparative Organic Chemistry for Biological Chemistry	KV	1,5
WS	Inorganic Chemistry I	VL	4,5
WS	Interpretation of NMR Spectra and Structure Elucidation of Organic Molecules	UE	1,5
WS	Introduction to Analytical Chemistry	VL	3
WS	Introduction to General Chemistry	VL	3
WS	Introduction to Mathematics	KV	1,5
WS	Introduction to Organic Chemistry	VL	3
WS	Introduction to Physics for Chemistry	KV	1,5
WS	Introductory Lab Course	PR	2
WS	Instrumental Analytical Chemistry	VL	3
WS	Lab Course in Electrochemistry	PR	1
WS	Lab Course in Physical Chemistry	PR	4
WS	Lab Course in Instrumental Analysis	PR	3
WS	Lab Course in Preparative Organic Chemistry I	PR	6
WS	Lab Course of Instrumental Analysis for Biological Chemistry	PR	2
WS	Lab Course in Physical Chemistry for Biological Chemistry	PR	4
WS	Literature Searching, Publishing and Patents	VL	1,5
WS	Materials Characterisation	VL	3
WS	Mathematics for Biological Chemistry 1	VL	3
WS	Mathematics for Chemistry I	VL	3
WS	NMR Spectroscopy	VL	1,5

WS	Organic Chemistry 2	VL	3
WS	Organic Technology	VL	6
WS	Physical Chemistry 1	VL	4,5
WS	Physics 1 for Biological Chemistry	KV	1,5
WS	Polymer Chemistry	VL	3
WS	Scientific Writing and Presenting	KV	3
WS	Science and Technology of Organic Semiconductors	SE	1,5
WS	Introduction into Gender Studies in Science and Engineering	KV	3
SS	Analytical Chemistry	VL	4,5
SS	Applications of Mathematics for Biological Chemistry 2	UE	3
SS	Applications of Mathematics in Chemistry with Exercises II	UE	3
SS	Basic Lab Course in Inorganic Technology	PR	2
SS	Basic Lab Course in Organic Technology	PR	2
SS	Basic Lab Course in Chemical Process Engineering	PR	2
SS	Basic Plant Design and Engineering	VL	3
SS	Biochemistry	VL	3
SS	Biotechnology	VL	1,5
SS	Catalysis	VL	3
SS	Chemical Calculations	KV	3
SS	Chemical Kinetics	VL	1,5
SS	Chemical Thermodynamics	KV	1,5
SS	Data Processing in Chemistry	KV	1,5
SS	Exercises in Chemical Kinetics and Catalysis	UE	1,5
SS	Exercises in Physical Chemistry II	UE	1,5
SS	Exercises in Physics for Biological Chemistry	UE	1,5
SS	Exercises in Physics for Chemistry	UE	1,5
SS	Fundamentals of Inorganic Materials	VL	3
SS	Industrial Lecture and Excursion	KV	1,5
SS	Inorganic Chemistry II	VL	4,5
SS	Introduction to Genetics	VL	1,5
SS	Lab Course in Analytical Chemistry for Biological Chemists	PR	5
SS	Lab Course in General Chemistry	PR	2
SS	Lab Course in Inorganic Chemistry	PR	5
SS	Lab Course in Physical Chemistry for Biological Chemistry	PR	4
SS	Lab Course in Physical Chemistry	PR	4
SS	Lab Course in Preparative Organic Chemistry II	PR	5
SS	Lab Course in Electrochemistry	PR	1
SS	Legislation for Chemists	VL	3
SS	Mathematics for Biological Chemistry 2	VL	3
SS	Mathematics for Chemistry II	VL	3
SS	Organic Chemistry 1	VL	4,5
SS	Organic Chemistry 1 for Biological Chemistry	VL	4,5
SS	Physical Chemistry II	VL	3
SS	Physics 2 for Biological Chemistry	VL	3

SS	Physics for Chemistry	VL	3
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3.2. Chemistry – Master Level

Sem.	Title	Course type	ECTS credits
WS	Advanced Biotechnology	VL	1,5
WS	Advanced Catalysis	VL	3
WS	Advanced Chemical Process Engineering	VL	3
WS	Advanced Inorganic Materials	VL	3
WS	Advanced Lab in Physical Chemistry I	PR	2
WS	Advanced Organic Chemistry 1	VL	3
WS	Advanced Polymer Synthesis Lab Course	PR	5
WS	Basic Engineering Calculations	UE	2
WS	Biocatalysis	VL	1,5
WS	Catalysis and Reaction Mechanisms	VL	1,5
WS	Catalysis by Metal Complexes	VL	3
WS	(Catalytic) Activation of Small Molecules	VL	3
WS	Characterization and Testing of Polymeric Materials 2	PR	4
WS	Chemistry and Technology of Silicone Elastomers	VL	3
WS	Company Visits: Polymer Industry	UE	1
WS	Design of Lightweight Structures	UE	2,5
WS	Design of Lightweight Structures	KV	3
WS	Elements of Structuring in Polymers	VL	1,5
WS	Excursion to Industry	VL	0,5
WS	Exercises in Polymer Chemistry 2	UE	1,5
WS	Exercises in Polymerization Techniques	UE	1,5
WS	Experimental methods in Rheology	KV	3
WS	Experimental Solid Mechanics for Polymeric Components	PR	2,5
WS	Financial Accounting and Sustainability Accounting	IK	3
WS	Financial Accounting and Sustainability Accounting	VL	3
WS	Formulation of Polymers	VL	1,5
WS	Industrial Characterization of Polymers	VL	3
WS	Industrial Chemistry for Plastic Engineering	VL	1,5
WS	Industrial Thin Film Technologies	VL	1,5
WS	Innovation Management for Scientists	SE	3
WS	Inorganic Materials in High-Tech Applications	VL	3
WS	Inorganic Technology Seminar	SE	1,5
WS	International Finance for Engineers	IK	3
WS	Interpretation of MS and IR Spectra	UE	1,5
WS	Lab Course in Advanced Inorganic Technology	PR	5
WS	Lab Course in Advanced Organic Technology	PR	5
WS	Lab Course in Advanced Process Engineering	PR	3
WS	Lab Course in Chemical Technology	PR	3
WS	Lab Course in Organic Electronics	PR	2

WS	Lab Course in Physical Chemistry III	PR	6
WS	Lab Course in Polymerization Techniques	PR	4
WS	Laboratory Course in Analytic Chemistry	PR	4
WS	Management and Marketing	VL	3
WS	Management and Marketing	IK	3
WS	Managerial Accounting for Engineers	IK	3
WS	Mass Spectrometry	VL	1,5
WS	Mechanical Material Models for Polymers	KV	3
WS	Molecularly Imprinted Polymers	VL	1,5
WS	Optimization Methods in Polymer Processing	KV	3
WS	Organic Electronics	VL	3
WS	Organic Semiconductors: Spectroscopy in organic Semiconductors	VL	3
WS	Organic Technology Seminar	SE	1,5
WS	Organic-Inorganic Hybrid Polymers	VL	1,5
WS	Organometallic Chemistry	VL	3
WS	Packaging	VL	2,5
WS	Patent Law and Intellectual Property	VL	3
WS	Photochemistry 1	VL	1,5
WS	Physical Chemistry of Macromolecular Materials	VL	4,5
WS	Physics and Chemistry of Organic Semiconductors	VL	3
WS	Basic Plant Design and Engineering	VL	3
WS	Polymer Chemistry 2	VL	3
WS	Polymer Extrusion and Compounding 1: Process Technologies	UE	1,5
WS	Polymer Extrusion and Compounding 1: Process Technologies	VL	3
WS	Polymer Injection Moulding 1: Machine Engineering	VL	3
WS	Polymer Injection Moulding 1: Machine Engineering	UE	1,5
WS	Polymer Product Design and Engineering 4: Integrated Injection Moulding, Micromechanics and Structure Simulation	UE	1,5
WS	Polymer Product Design and Engineering III	UE	1
WS	Polymer Product Design and Engineering III	VL	1,5
WS	Polymeric Materials 5 - Polymeric Mat. & Sust. Developm.	KV	3
WS	Practical NMR	PR	4
WS	Safety Engineering	VL	3
WS	Science and Technology of Organic Semiconductors	SE	1,5
WS	Scientific Tutorial in Polymer Injection Moulding	SE	4,5
WS	Scientific Tutorial in Polymeric Materials and Testing	SE	4,5
WS	Seminar in Polymer Injection Moulding	SE	3
WS	Seminar in Polymer Product Engineering	SE	3
WS	Seminar in Polymeric Materials and Testing	SE	3
WS	Structural Durability and Damage Tolerance	VL	3
WS	Structure Analysis with Finite Element Methods	KV	1,5
WS	Structure and Properties of Biological Materials 2	VL	1,5
WS	Structure Development in Polymeric Materials	VL	3
SS	Advanced Chemical Reaction Engineering	VL	1,5
SS	Advanced Instrumental Analysis	PR	2

SS	Advanced Lab in Physical Chemistry I	PR	2
SS	Advanced NMR 1	VL	1,5
SS	Advanced NMR 2	KV	1,5
SS	Advanced Organic Technology 1	VL	3
SS	Advanced Organic Technology 2	VL	3
SS	Advanced Topics of Molecular Biotechnologies	VL	3
SS	Applied Measurements and Control in Polymer Processing	KV	1,5
SS	Biophysical Laboratory II for Biological Chemistry	PR	2
SS	Bionics - biomimetic Materials and Polymers	VL	1,5
SS	Characterization and Testing of Plastics 1b	PR	1,5
SS	Characterization and Testing of Polymers I – MPT	PR	3,5
SS	Chemical Interactions in Polymers	VL	1,3
SS	Cross Cultural Management for Engineers	IK	3
SS	Current Topics in Biological Chemistry: Structural Proteomics	VL	1,5
SS	Engineering with Soft Materials	KV	3
SS	Environmental, Resource and Quality Management for Engineers	IK	3
SS	Excursion to Industry	VL	0.5
SS	Functional Polymers	VL	1,3
SS	Global Management and Strategy	SE	3
SS	High Resolution Microscopy I - Optical and Electron Microscopy Techniques	VL	1,5
SS	High Resolution Microscopy II - Scanning Probe Techniques	VL	1,5
SS	Inorganic Chemistry 3	VL	3
SS	Inorganic Technology Seminar	SE	1,5
SS	Lab Course in Advanced Inorganic Technology	PR	5
SS	Lab Course in Advanced Organic Technology	PR	5
SS	Lab Course in Advanced Process Engineering	PR	3
SS	Lab Course in Instrumental Analytical Chemistry for Molecular Biology	PR	3
SS	Lab Course in Chemical Technology	PR	3
SS	Lab Course in Physical Chemistry III	PR	6
SS	Laboratory Course of Polymer Chemistry 1	PR	3
SS	Laboratory Course of Polymer Chemistry 2	PR	2
SS	Lightweight Design with Composite Materials	UE	1,5
SS	Lightweight Design with Composite Materials	VL	3
SS	Management and Marketing	VL	3
SS	Management and Marketing	IK	3
SS	Microelectrochemistry	VL	3
SS	Mineralogy and Geochemistry	VL	3
SS	Molecular Biologists fit for Non-Academic Careers	VL	1,5
SS	Organic Technology Seminar	SE	1,5
SS	Photovoltaic	VL	3
SS	Physical and Theoretical Chemistry	VL	3
SS	Physical Chemistry of Surfaces and Interfaces	VL	1,5
SS	Polymer Chemistry and Chemical Process Technologies	VL	2,5
SS	Physical Chemistry of Surfaces and Interfaces	VL	1,5

SS	Polymer Extrusion and Compounding 2: Modelling Screw Extrusion	VL	3
SS	Polymer Extrusion and Compounding 2: Modelling Screw Extrusion	UE	1,5
SS	Polymer Injection Moulding 2: Process Technologies	KV	3
SS	Polymer Processing	PR	2,5
SS	Polymer Product and Process Development	VL	3
SS	Polymer Product and Process Development Project	PR	4
SS	Polymer Product Design and Engineering 4: Integrated Injection Moulding, Micromechanics and Structure Simulation	VL	3
SS	Polymeric Materials 3: Polymer Mechanics and Fracture Mechanics	VL	3
SS	Polymeric Materials 4: Functional Polymeric Materials	SE	1
SS	Polymeric Materials 4: Functional Polymeric Materials	VL	1,5
SS	Polymerization Techniques	VL	3
SS	Practical Atomic Force Microscopy	PR	2
SS	Practical NMR	PR	2
SS	Practical Photochemistry	PR	4
SS	Preparative Chemistry Laboratory for Biological Chemists	PR	5
SS	Protein Science	VL	1,5
SS	Scientific Tutorial in Polymer Extrusion and Compounding	SE	4,5
SS	Scientific Tutorial in Polymer Product Engineering	SE	4,5
SS	Scientific Tutorial in Polymeric Materials and Testing	SE	4,5
SS	Seminar in Polymer Extrusion and Compounding	SE	3
SS	Seminar in Polymer Product Engineering	SE	3
SS	Seminar in Polymeric Materials and Testing	SE	3
SS	Seminar in Process and Plant Engineering	SE	1,5
SS	Seminar in Structural and Computational Biochemistry	SE	1,5
SS	Seminar in Biophysical Chemistry	SE	1,5
SS	Spectroelectrochemistry	VL	3
SS	Stereochemistry	VL	3
SS	Structural Durability Calculations	UE	1,5
SS	Synthetic Polymers for Biology and Medicine	VL	1,5
SS	Technical Biopolymers	VL	1,3

3.3. Computer Science – Bachelor Level

Sem.	Title	Course type	ECTS credits
WS	Algorithms and Data Structures 2	UE	1,5
WS	Artificial Intelligence	UE	1,5
WS	Artificial Intelligence	VO	3
WS	Introduction to Machine Learning	VL	3
WS	Logic	UE	1,5
WS	Logic	VL	3
WS	Project Practical	PR	7,5
WS	Sequence Analysis and Phylogenetics	UE	3

WS	Sequence Analysis and Phylogenetics	VL	3
WS	Software Engineering	UE	1,5
WS	Software Engineering	VO	3
WS	Systems Programming	PR	3
SS	Algebra	UE	3
SS	Algorithms and Data Structures 1	UE	1,5
SS	Algorithms and Data Structures 1	VL	3
SS	Computer Graphics	UE	1,5
SS	Computer Graphics	VO	3
SS	Embedded and Pervasive Systems	VL	3
SS	Embedded and Pervasive Systems	UE	1,5
SS	Formal Models	UE	1,5
SS	Formal Models	VL	3
SS	Genome Analysis & Transcriptomics	KV	3
SS	Information Systems for Bioinformatics	KV	6
SS	Project Practical	PR	7,5
SS	Project Practical: Computer Graphics, BSc	PR	7,5
SS	Surface and Nano analytics Lab (experimental)	KV	3
SS	Systems Programming	PR	3

3.4. Computer Science – Master Level

Sem.	Title	Course type	ECTS credits
WS	Advanced Model Engineering	KV	3
WS	Assistive Technologies and Accessibility	KV	3
WS	Cloud Security	KV	3
WS	Computer Forensics and IT Law	VL	3
WS	Computer Vision	KV	4,5
WS	Emerging Computer Technologies	KV	4,5
WS	Formal Methods in Software Development	KV	4,5
WS	Genome Assembly	KV	3
WS	Human/Computer Interaction	VL	3
WS	Information Retrieval and Extraction	KV	3
WS	Information Security Management	VL	3
WS	Introduction to IT Security	VL	3
WS	Knowledge Based Systems	KV	3
WS	Mobile Computing	KV	3
WS	Model Checking	KV	4,5
WS	Multimedia Search and Retrieval	KV	4,5
WS	Pervasive Computing: Design and Development	UE	1,5
WS	Pervasive Computing: Design and Development	VL	3
WS	Pervasive Computing: Systems and Environments	UE	1,5
WS	Pervasive Computing: Systems and Environments	VL	3
WS	Principles of Programming Languages	KV	3
WS	Probabilistic Models	VL	3

WS	Project Bioinformatics	PR	9
WS	Project in Computational Engineering	PR	7,5
WS	Project in Data Science	PR	7,5
WS	Project in Intelligent Information Systems	PR	7,5
WS	Project in Pervasive Computing	PR	7,5
WS	Requirements Engineering	KV	3
WS	SAT Solving	KV	3
WS	Seminar Bioinformatics	SE	3
WS	Seminar in Computational Engineering: Bioinformatics and Machine Learning	SE	3
WS	Seminar in Computational Engineering: Computational Perception	SE	3
WS	Seminar in Computational Engineering: Design of Digital Circuits and Systems	SE	3
WS	Seminar in Computational Engineering: History of Logic	SE	3
WS	Seminar in Data Science	SE	3
WS	Seminar in Data Science: Computational Data Analysis	SE	3
WS	Seminar in Intelligent Information Systems: Information Integration	SE	3
WS	Seminar in Intelligent Information Systems: Crowd Knowledge Extraction	SE	3
WS	Seminar in Intelligent Information Systems: Blockchains, Gamification, Volunteer Systems, Social Media Mining, Crowdsourcing, Model Engineering	SE	3
WS	Seminar in Intelligent Information Systems: Assistive Technologies	SE	3
WS	Seminar in Networks and Security: Biometrics and Cryptography	SE	3
WS	Seminar in Networks and Security: Security in Information Systems	SE	3
WS	Seminar in Pervasive Computing: Computer Graphics	SE	3
WS	Seminar in Persuasive Computing: Digital Rights Management in Pervasive Computing Environment	SE	3
WS	Seminar in Software Engineering: Applications of AI and Machine Learning in Software Engineer	SE	3
WS	Special Topics: Android Security	KV	1,5
WS	Special Topics: Chess Programming	VL	3
WS	Special Topics: Computer Forensics and IT Law	UE	1,5
WS	Special Topics: Formal Languages and Formal Grammars II	VL	3
WS	Special Topics: Mathematical Logic I	KV	4,5
WS	Special Topics: Production Automation Systems	VL	3
WS	Special Topics: Mechatronic Systems	VL	3
WS	Special Topics: Software Architectures with Java EE	KV	1,5
WS	Special Topics: Modern Front-End Web Development	KV	1,5
WS	Special Topics: Reinforcement Learning	KV	4,5
WS	Statistics 2	KV	3
WS	System Administration	KV	3
WS	System Software	KV	3
WS	Visual Analytics	VL	3
WS	VLSI Design	KV	3
WS	Web Engineering	KV	3
WS	Web Performance	KV	3

SS	Accessible Software and Web Design	KV	1,5
SS	Application Oriented Knowledge Processing	KV	3
SS	Big Data Management and Processing	KV	3
SS	Computational Data Analysis	KV	3
SS	Conceptual Data Modeling	KV	3
SS	Cryptography	KV	3
SS	Engineering of Software-intensive Systems: Model Driven System Architecture	KV	3
SS	Hardware Design	KV	4,5
SS	Information Displays	VO	3
SS	Information Visualization	KV	4,5
SS	Integrated Information Systems	KV	3
SS	Introduction into Instrumental Analytics for Life-Sciences	KV	3
SS	Learning from User-generated Data	KV	4,5
SS	Machine Learning and Pattern Classification	KV	4,5
SS	Model-driven Engineering	KV	3
SS	Modeling Internet Applications	KV	3
SS	Network Management	KV	3
SS	Network Security	KV	1,5
SS	Parallel Computing	KV	4,5
SS	Principles of Cooperation	UE	1,5
SS	Principles of Cooperation	VL	3
SS	Principles of Interaction	UE	1,5
SS	Principles of Interaction	VL	3
SS	Project in Computational Engineering	PR	7,5
SS	Project in Intelligent Information Systems	PR	7,5
SS	Project in Intelligent Information Systems: Assistive Technologies	PR	7,5
SS	Project in Networks and Security	PR	7,5
SS	Project in Pervasive Computing	PR	7,5
SS	Secure Code	KV	1,5
SS	Security Models in Information Systems	KV	3
SS	Semantic Data Modeling and Applications	KV	3
SS	Seminar in Computational Engineering: Design of Digital Circuits and Systems	SE	3
SS	Seminar in Data Science: Natural Language Processing and Understanding	SE	3
SS	Seminar in Data Science: Computational Data Analytics	SE	3
SS	Seminar in Intelligent Information Systems: Multimedia Information Retrieval	SE	3
SS	Seminar in Intelligent Information Systems: Information Systems	SE	3
SS	Seminar in Intelligent Information Systems: Chatbots, NLP, Web Engineering	SE	3
SS	Seminar in Intelligent Information Systems: Assistive Technologies	SE	3
SS	Seminar in Intelligent Information Systems Blockchains, Gamification, Volunteer Systems, Social Media Mining, Crowdsourcing, Model Engineering	SE	3
SS	Seminar in Pervasive Computing	SE	3

SS	Seminar in Pervasive Computing: Internet of Things - Communicating with Machines and Objects	SE	3
SS	Seminar in Software Engineering: Collaborative Engineering	SE	3
SS	Software Architectures	KV	4,5
SS	Software Processes and Tools	KV	3
SS	Software Testing	KV	3
SS	Special Topics: Audio and Music Processing	KV	3
SS	Special Topics: Decidability and Complexity Classes	VL	3
SS	Special Topics: Dynamic Compilation and Run-time Optimization in Virtual Mac	KV	1,5
SS	Special Topics: Formal Specification of Abstract Datatypes	LV	3
SS	Special Topics: Introduction to Parallel and Distributed Computing	VL	3
SS	Special Topics: Formal Specification of Software	KV	3
SS	Special Topics: Functional Programming	VL	3
SS	Special Topics: Functional Programming in Java	KV	1,5
SS	Special Topics: Gödel's Incompleteness Theorems	LV	3
SS	Special Topics: Introduction to Microcontrollers	KV	1,5
SS	Special Topics: Java Performance Monitoring and Benchmarking	KV	1,5
SS	Special Topics: Mobile, intelligent robots	VL	1,5
SS	Special Topics: Mobile Web Development	KV	3
SS	Special Topics: Multimedia Data Mining	KV	4,5
SS	Special Topics: Natural Language Processing with Deep Learning	KV	4,5
SS	Special Topics: Production Automation Systems	UE	1,5
SS	Special Topics: Programming in Mathematica	KV	3
SS	Special Topics: Unification Theory	LV	3
SS	Special Topics: Software Development with C#	KV	1,5
SS	Systems Security	KV	6
SS	Theoretical Concepts of Machine Learning	UE	1,5
SS	Theoretical Concepts of Machine Learning	VO	3
SS	Web Information Systems	KV	4,5
SS	Web Search and Mining	KV	3
SS	Wireless LANs	KV	1,5

3.5. Mathematics – Bachelor Level

Sem.	Title	Course type	ECTS credits
WS	Algebraic combinatorics	UE	1,5
WS	Algebraic combinatorics	VL	3
WS	Algorithms and data structures	VL	3
WS	Algorithms and data structures	UE	1,5
WS	Computability theory	VO	3
WS	Computer Algebra	UE	1,5
WS	Computer Algebra	VL	3
WS	Thinking, Speaking, Writing: Communication of Scientific Results	VO	3

WS	Thinking, Speaking, Writing: Understanding and Creating Mathematical Proofs	Vo	3
WS	Logic programming	KV	3
WS	Mathematical logic 1	UE	1,5
WS	Numerical methods for partial differential equations	UE	3
WS	Seminar algebra and discrete mathematics: Research Seminar	SE	3
WS	Seminar Geometry: Recent Results in Applied Geometry	SE	3
WS	Seminar logic and software design: Automated theorem proving I: Theorema: Autom. Reasoning in Natural Style	SE	3
WS	Seminar logic and software design: Project seminar Formal Methods I	SE	3
WS	Seminar symbolic computation: Computer-Algebra I	SE	3
WS	Seminar symbolic computation: Computational Mathematics in Numerical Analysis and Symbolic Computation	SE	3
WS	Seminar symbolic computation: Project seminar Algorithmic Combinatorics I	SE	3
WS	Seminar symbolic computation: Research Topics in Algebra and Combinatorics	SE	3
WS	Special Topics algebra and discrete mathematics: Finite Fields	VL	3
WS	Special Topics algebra and discrete mathematics: Finite Fields	UE	1,5
WS	Special Topics Geometry: Subdivision – curves and surfaces	VL	3
WS	Special topics logic and software design: Formal Languages and Formal Grammars II	VL	3
WS	Special Topics optimization: Optimal control and stabilization of parabolic partial differential equations	VL	3
WS	Special Topics symbolic computation: Category Theory for Symbolic Computation	VL	3
SS	Commutative algebra and algebraic geometry	UE	1,5
SS	Computer-aided geometric design	ÜE	1,5
SS	Computer Algebra for Concrete Mathematics	UE	1,5
SS	Computer Algebra for Concrete Mathematics	VL	3
SS	Decidability and complexity classes	VO	3
SS	Functional programming	KV	3
SS	Introduction to parallel and distributed computing	VO	3
SS	Numerical methods in continuum mechanics 1	UE	1,5
SS	Programming in Mathematica	KV	3
SS	Seminar algebra and discrete mathematics: Research Seminar	SE	3
SS	Seminar Geometry: Recents Results in Computer Aided Geometric Design	SE	3
SS	Seminar Knowledge-based Mathematical Systems: Introduction to differential modelling in biosciences	SE	3
SS	Seminar symbolic computation: Computer-Algebra II	SE	3
SS	Seminar symbolic computation: Computational Mathematics in Numerical Analysis and Symbolic	SE	3
SS	Seminar symbolic computation: Research Topics in Algebra and Combinatorics	SE	3
SS	Seminar symbolic computation: Project seminar Algorithmic combinatorics II (Summer semester 2019)	SE	3
SS	Special topics logic and software design: Formal Specification of Abstract	VL	3

	Datatypes		
SS	Special topics logic and software design: Gödel's Incompleteness Theorems	VL	3
SS	Special topics logic and software design: Unification Theory	VL	3
SS	Special Topics Number theory: Probabilistic Method	VL	3
SS	Special Topics symbolic computation: Algebraic Topology	VL	3
SS	Special Topics symbolic computation: Category Theory for Symbolic Computation	VL	3
SS	Special Topics symbolic computation: Mathematical Methods in Kinematics	VL	3
SS	Special Topics symbolic computation: Symbolic Summation and Special Functions II	VL	3

3.6. Mathematics – Master Level

Note: Master curriculum contains electives to be selected from the 3rd year Bachelor curriculum

Sem.	Title	Course type	ECTS credits
WS	Differential geometry	VO	3
WS	Formal methods in software development	KV	6
WS	Integral equations and boundary value problems	VO	6
WS	Mathematical logic 1	VO	6
WS	Statistical methods	VO	3
SS	Commutative algebra and algebraic geometry	VO	6
SS	Numerical methods for elliptic equations	VO	6
SS	Numerical methods in continuum mechanics 1	VO	3
SS	Practical software technology	KV	6

3.7. Mechatronics – Master Level

Sem.	Title	Course type	ECTS credits
WS	Selected Topics of Electrical Drive Technology: Machines and drives for electromobility	VO	3
WS	Structure Analysis with Finite Element Methods	KV	1,5
SS	Energy systems control	VO	3
SS	Energy systems control	UE	1,5
SS	Numerical Methods in Fluid Mechanics	VL	3
SS	Oil Hydraulics	KV	4,5

3.8. Physics – Bachelor Level

Sem.	Title	Course type	ECTS credits
WS	Chemistry for Physicist II	VO	3

WS	Genomic Data Analysis	VU	6
WS	Project seminar Technical Physics	SE	9
SS	Introduction to Laser Processing	VL	3
SS	Introduction to programming I	PR	3
SS	Nanoscience and Nanomaterials	VL	3
SS	Project seminar Technical Physics	SE	9

3.9. Physics – Master Level

Sem.	Title	Course type	ECTS credits
WS	Bioanalytics I	UE	1,5
WS	Bioanalytics I	VO	3
WS	Biophysics III	VO	3
WS	Computational Physics I	UE	1,5
WS	Computational Physics I	VO	3
WS	Exercises in biophysics I	UE	1,5
WS	Lab course in organic electronics	PR	3
WS	Laser physics	UE	1,5
WS	Laser physics	VO	3
WS	Literature seminar in applied physics	SE	3
WS	Literature seminar in semiconductor physics	SE	3
WS	Metal Physics	VO	3
WS	Molecular biology of the cell I	VO	3
WS	Molecular biology of the cell I	UE	1,5
WS	Nanofabrication I: Growth and Self-Organization	PR	1,5
WS	Nanofabrication I: Growth and Self-Organization	VL	3
WS	Organic electronics: From fundamentals to applications	VL	3
WS	Photonics	UE	1,5
WS	Photonics	VL	3
WS	Physics of low dimensional systems	UE	1,5
WS	Physics of low dimensional systems	VO	4,5
WS	Polymer Extrusion and Compounding 1: Process Technologies	VL	1,5
WS	Protein-expression and function	PR	4,5
WS	Quantum electronics and optics	UE	1,5
WS	Quantum electronics and optics	VO	3
WS	Research seminar in surface and nano analytics	SE	3
WS	Selected Topics on Biophysics: Mechanisms of Membrane Transport	SE	3
WS	Semiconductor physics for advanced students	UE	1,5
WS	Seminar in physics of soft materials: Hydrogels	SE	3
WS	Seminar in semiconductor physics: Methods of experimental semiconductor physics	SE	3
WS	Seminar in surface and nano analytics: surface analytics	SE	3
WS	Special topics in theoretical physics: Advanced theory of magnetism	VO	3
WS	Superconductivity and low temperature physics	UE	1,5

WS	Surface and nano analytics lab (experimental)	PR	9
WS	Surface science II	UE	1,5
WS	Topics in Genetics and Evolution	KV	3
WS	Ethics and Gender Studies	VO	3
WS	Using Computers in Science: Numerical methods	VL	3
SS	Advanced Microscopy: Electron Microscopy and Spectroscopy	VO	3
SS	Advanced practical course	PR	4,5
SS	Bioanalytics II	UE	1,5
SS	Bioanalytics II	VL	3
SS	Computational Physics II	UE	1,5
SS	Computational Physics II	VO	3
SS	Crystal growth and Epitaxy	PR	1,5
SS	Crystal growth and Epitaxy	VL	3
SS	Literature seminar in applied physics	SE	3
SS	Literature seminar in semiconductor physics	SE	3
SS	Literature seminar in surface and nano analytics	SE	3
SS	Nanofabrication II: Semiconductor Technology: Top Down	PR	1,5
SS	Nanofabrication II: Semiconductor Technology: Top Down	VO	3
SS	Nanoforum	KV	3
SS	Nanooptics	VO	3
SS	Physics of Soft Matter	VO	3
SS	Research seminar in biophysics	SE	3
SS	Research seminar in surface and nano analytics	SE	3
SS	Semiconductor physics	VO	3
SS	Semiconductor physics	UE	1,5
SS	Seminar in applied physics: Applications of Lasers in Modern Life	SE	3
SS	Seminar in Nanoscience and – Technology	SE	3
SS	Seminar in physics of soft materials	SE	3
SS	Seminar in semiconductor physics: Integrated Quantum Optics	SE	3
SS	Seminar in surface and nano analytics: surface analytics	SE	3
SS	Smart Materials	VO	3
SS	Special topics in semiconductor physics: Symmetries	VO	3
SS	Special topics in soft matter physics: Flexible and stretchable electronics	VO	3
SS	Special topics in theoretical physics: Quantum field theory and elementary particle physics	VO	3
SS	Surface and nano analytics lab (experimental)	PR	9
SS	Surface science I	UE	1,5
SS	Vacuum technology and physics	VO	3
SS	Ethics and Gender Studies: Gender in technological Processes	VO	3

Note: Upon request of a student any Physics course in the Master's programme will be taught in English instead of German.

4. Faculty of Law

4.1. Law Courses

Sem.	Title	Course type	ECTS credits
WS	Common Law Civil Procedure	VL	1,5
WS	International Commercial Arbitration	VL	1,5
WS	Law and Economics	KS	4
WS	Precourse Legal English	KV	3
WS	Public International Law	VL	1
WS	Purchase tax and transfer tax	PS	5,5
SS	Austrian Bankruptcy Law	VL	1,5
SS	Precourse Legal English	KV	3
SS	Public International Law	VL	1
SS	Selected Topics: Common Law Legal Order/US Bankruptcy Law	VL	1,5

5. German as a Foreign Language Courses

5.1. Pre-semester German Intensive Courses

Sem.	Title	Course type	ECTS credits
WS&SS	Language and Culture: German as a Foreign Language – Introductory I	KS	3
WS&SS	Language and Culture: German as a Foreign Language – Introductory II	KS	3
WS&SS	Language and Culture: German as a Foreign Language – Intermediate	KS	3
WS&SS	Language and Culture: German as a Foreign Language – Advanced	KS	3

5.2. Semester Courses for Exchange Students

Sem.	Title	Course type	ECTS credits
WS&SS	German as a Foreign Language A1.1	KS	6
WS&SS	German as a Foreign Language A1.2	KS	6
WS&SS	German as a Foreign Language A2.2	KS	6
WS&SS	German as a Foreign Language B1.1	KS	6

5.3. University Preparation Programme German

5.3.1. Module B1 (16 ECTS)

Sem.	Title	Course type	ECTS credits
WS&SS	German as a Foreign Language B1	KS	10
WS&SS	German – Grammar B1	UE	3
WS&SS	German – Test Production B1	UE	3

5.3.2. Module B2 (16 ECTS)

Sem.	Title	Course type	ECTS credits
WS&SS	German as a Foreign Language B2	KS	10
WS&SS	German – Grammar B2	UE	3
WS&SS	German – Text Production B2	UE	3

5.3.3. Module C1 (16 ECTS)

Sem.	Title	Course type	ECTS credits
WS&SS	German as a Foreign Language C1	KS	10
WS&SS	German – Grammar C1	UE	3
WS&SS	German – Text Production C1	UE	3







5.3.4. Additional Offer

Sem.	Title	Course type	ECTS credits
WS&SS	German – Phonetics	UE	1

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