COURSES TAUGHT IN ENGLISH

The courses listed in this brochure refer to the academic year 2023/24.

For up-to-date course information, please go to
http://www.jku.at/exchange/courses

Bachelor study programmes taught in English:
- Artificial Intelligence
- Biological Chemistry
- Chemistry and Chemical Technology
- International Business Administration
- Transformation Studies. Art x Science

Master study programmes taught in English:
- Artificial Intelligence
- Biological Chemistry
- Chemistry and Chemical Technology
- Comparative Social Policy and Welfare
- Computational Mathematics
- Computer Science
- Economic and Business Analytics
- Economics
- Industrial Mathematics
- Leadership and Innovation in Organizations
- Management
- Management in Chemical Technologies
- Management in Polymer Technologies
- Molecular Biology
- Physics
- Polymer Chemistry
- Polymer Technologies and Science
- Statistics

Table of Contents

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 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 Topics in Innovation and Entrepreneurship	SE	3
WS	Basics in International Business and Market Entry	IK	3
WS	Basics of International Financial Reporting and Perspectives in Digitalization	KS	3
WS	Case Studies English (C1) - for non-native speakers only!	KS	3
WS	Cost and Management Accounting*	KS	3
WS	Cross Cultural Management*	SE	3
WS	Entrepreneurial and Leadership Skills	SE	3
WS	Fundamentals of Financial Management	KS	3
WS	International Business Law: regional Legal and Economic Integration	KS	3
WS	International Business Taxation	IK	3
WS	International Business*	KS	3
WS	International Market Entry*	IK	3
WS	International Investments	KS	3
WS	Introduction to Leadership and Change	KS	3
WS	Introduction to Organization	KS	3
WS	Introduction to Intelligent Solutions for Transportation and Physical Internet	IK	3
WS	Introduction to Research Methods	KS	3
WS	Introduction to Strategy & International Management*	KS	3
WS	Management Control Systems*	IK	3
WS	Managing Projects in Virtual Teams	IK	3
WS	Operations and Supply Chain Management	KS	3
WS	Operations and Supply Chain Management	IK	3
WS	Organization	IK	3
WS	Organization	KS	3
WS	Principles of Marketing: An International Persprective	KS	3
WS	Reporting in International Corporations	IK	3
WS	Research Seminar in Operations, Transport and Supply Chain Management	SE	3
WS	Research Seminar Sustainability	SE	3
WS	Socio-Technical Transition Management	KS	3
WS	Special Topics in International Management: Managing projects in virtual teams	IK	3
WS	Supply Chain Fundamentals	KS	3
WS	Sustainable Management Accounting	KS	3
WS	Traffic Simulation	SE	3

SS	Advanced Topics in Innovation and Entrepreneurship	SE	3
SS	Advanced Topics in Organization and Innovation	SE	3
SS	Auditing of Multinational Firms	KS	3
SS	Basics in Academic Writing	KS	3
SS	Basics in International Business and Market Entry	IK	3
SS	Basics of Business Taxation	KS	3
SS	Basics of International Financial Reporting and Perspectives on Digitilization	KS	3
SS	Business Impacts of Digitalization and Supply Chain Management	KS	3
SS	Case Studies English (C1) - for non-native speakers only!	KS	3
SS	Corporate Governance	IK	3
SS	Cross Cultural Management	SE	3
SS	Entrepreneurial and Leadership Skills	SE	3
SS	Environmental and Quality Management	KS	3
SS	Innovation and Entrepreneurship	KS	3
SS	Innovation and Entrepreneurship	IK	3
SS	International Business	KS	3
SS	International Business Law: Principles and Cases	KS	3
SS	International Collaboration and Negotiations	IK	3
SS	International Investments	KS	3
SS	International Marketing Cases	IK	3
SS	International Market Entry	IK	3
SS	Introduction to Gender and Diversity	IK	3
SS	Introduction to Organization	KS	3
SS	Introduction to Strategy & International Management	KS	3
SS	Management Control	IK	3
SS	Managing Projects in Virtual Teams	IK	3
SS	Operations and Supply Chain Management	KS	3
SS	Operations and Supply Chain Management	IK	3
SS	Organization Theory and Behavior	IK	3
SS	Organizing Sustainability	KS	3
SS	Research Seminar in Operations, Transport and Supply Chain Management	SE	3
SS	Research Seminar in Organization, Innovation and Entrepreneurship	SE	3
SS	Research Seminar Sustainability	SE	3
SS	Responsible Innovation	KS	3
SS	Software Tools for Decision Support in Transportation Logistics	SE	3
SS	Special Topics in International Management: International Negotiations	IK	3
SS	Statistics	KS	3
SS	Supply Chain Fundamentals	KS	3
SS	Sustainable Business Practice	SE	3
SS	Transportation Logistics	IK	3

2.2. Economic Courses – Bachelor Level

Sem.	Title	Course type	ECTS credits
WS	Balance of Payments and Exchange Rates	KS	3
WS	Data and Research Designs in Economics	IK	6
WS	Economic Growth	KS	3
WS	Financial Markets	KS	3
WS	Intermediate Microeconomics	KS	3
WS	Intermediate Microeconomics	IK	3
WS	International Economics	KS	3
WS	International Economics	IK	3
WS	Introduction to Microeconomics	KS	3
WS	Introduction to Microeconomics	IK	3
WS	Labour Economics	KS	3
WS	Managerial Economics	KS	3
WS	Personnel Economics	KS	3
SS	Behavioral Economics	KS	3
SS	Data Analysis and Economic Methods	SE	3
SS	Data and Research Designs in Economics	IK	3
SS	Economics of Inequality	KS	3
SS	Intermediate Econometrics	KS	3
SS	Intermediate Econometrics	IK	3
SS	Introductory Microeconomics	IK	3
SS	Introduction to Macroeconomics	KS	3
SS	Introduction to Macroeconomics	IK	3
SS	Managerial Economics	KS	3
SS	The Financing of Corporations	KS	3

2.3. Other Social Science Courses – Bachelor Level

Sem.	Title	Course type	ECTS credits
WS	Academic Writing English (C1)	KS	3
WS	Advanced Software Development	UE	3
WS	Intercultural Skills English (C1)	KS	3
WS	Introduction into Gender Studies in Science and Engineering	VL	3
WS	Management of Digitalization and Use of Business Information Systems	UE	3
WS	Management of Digitalization and Use of Business Information Systems	VL	3
WS	Mathematics	KS	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	Political and Economic Development in Europe	KS	3
WS	Political Economy	VU	3
WS	Reading Course: Global Studies	UE	3
WS	Technology and Society	SE	6
WS	Theory of Intercultural Communication*	IK	3
WS	Work Psychology*	SE	3
SS	Academic Writing English (C1)	KS	3
SS	Advanced Software Development	UE	3
SS	Comparative Social Policy	KS	3
SS	Critical Thinking	VU	3
SS	Intercultural Skills English (C1)	KS	3
SS	Interdisciplinary Perspectives 1: Social Sciences	UV	3
SS	Introduction into Gender Studies in Science and Engineering	KV	3
SS	Paradigms and Current Trends of Sociological Thought II	SE	6
SS	Philosophy and Philosophy of Science	SE	6
SS	Political and Economic Development in Europe	KS	3
SS	Selected Topics in Practical Philosophy – Research Integrity (RCR), Environment and Artificial Intelligence	SE	4
SS	Technology and Society	SE	6
SS	Work Psychology	SE	3

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

2.4. Business Informatics – Master Level

Sem.	Title	Course type	ECTS credits
WS	Computational Logistics: Optimization	SE	6
WS	Data Warehousing	UE	3
WS	Data Warehousing	VL	3
WS	Intelligent Transportation Systems	IK	3
SS	Advanced Production, Logistics and Supply Chain Management	IK	3
SS	Computational Logistics Metaheuristics	SE	6
SS	Data Mining (UE & VL may only be taken in combination)	VL	3
SS	Data Mining	UE	3

2.5. Economics and Business Analytics – Master Level

Sem.	Title	Course type	ECTS credits
WS	Decisions in Firms	KS	6
WS	Empirical Economics	KS	3
WS	Empirical Economics	IK	3
WS	Game Theory	KS	4
WS	Game Theory	IK	2
WS	Introduction to Analytics and Digital Transformation	KS	3
WS	Operations Research	KS	3
WS	Operations Research	IK	3
WS	Python Programming for Economic and Business Analytics	VL	3
WS	Python Programming for Economic and Business Analytics	UE	3
SS	Banking	KS	4
SS	Economics of Digital Markets	KS	4
SS	Introduction to Analytics and Digital Transformation	KS	3
SS	Online Marketplace	VU	6
SS	Programming for Business Tasks	IK	6
SS	Python Programming for Economic and Business Analytics	VL	3
SS	Python Programming for Economic and Business Analytics	UE	3
SS	Seminar Analytic Methods	SE	4
SS	Treatment Evaluation	KS	3
SS	Treatment Evaluation	IK	3

2.6. Economic Courses – Master Level

Sem.	Title	Course type	ECTS credits
WS	Consumer Choices and Market Outcomes	KS	6
WS	Health Economics II	KS	4
WS	Monetary and Macroeconomics	KS	6
WS	Public, Health, and Environmental Economics I	KS	6
WS	Programming: Data Management and Visualization	KS	4
SS	Gender Aspects in Economics	SE	3
SS	Gender Aspects in Economics	KS	3
SS	Labor Markets, Unemployment and Migration	KS	6
SS	Managerial Economics 2	KS	3
SS	Public, Health and Environmental Economics II	KS	6
SS	Regulation and Antitrust	KS	3
SS	Seminar Financial Economics	KS	3
SS	The Multinational Firm in the Global Economy	KS	3

2.7. Leading Innovative Organizations – Master Level

Sem.	Title	Course type	ECTS credits
WS	CB1: Leadership and change management	KS	3
WS	CB2: Innovation management	KS	3
WS	CB2: Innovation management	SE	3
WS	CB3: Entrepreneurship and new business venturing	KS	3
WS	CB3: Entrepreneurship and new business venturing	SE	3
WS	CB4: Digital transformation and platform economy	KS	3
WS	CB4: Digital transformation and platform economy	SE	3
SS	CI1: Innovation Networks and Alliances	KS	3
SS	CI1: Innovation Networks and Alliances	SE	3
SS	CI2: Financial Analysis	KS	3
SS	CI2: Digital Market Strategy	KS	3
SS	CI3: Entrepreneurship and Business Modeling	KS	3
SS	CI3: Entrepreneurship and Business Modeling	SE	3
SS	MS3: Leadership Skills	SE	3
SS	MS4: Entrepreneurial Skills	SE	3
SS	RS3 Research Toolkit II	SE	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	Bayes Statistics	KV	4
SS	Data Science	SE	6
SS	Experimental Design	KV	4
SS	Statistical Learning	KV	4
SS	Statistical Principles of Data Science	KV	6

2.9. Management – Master Level

Sem.	Title	Level**	Course type	ECTS credits
WS	Advances in Leadership, Human Resource Management and Change	M1	KS	6
WS	Advanced Topics in B2B-Marketing	M2	SE	2
WS	Business Ethics	M1	SE	2
WS	Business Models and the impact of Digitalization & Sustainability	M2	SE	4
WS	Consumer Insights and Relationship Marketing	M2	SE	2
WS	Contemporary Issues in Marketing Management	M2	SE	4
WS	Corporate Finance	M1	KS	6
WS	Creating Strategic Advantages	M1	KS	6
WS	Digital Transformation: Continuous Change & Ambidexterity	M2	SE	3
WS	Digital Transformation: Managing Change	M2	SE	4
WS	Entrepreneurship	M1	KS	6
WS	Financial Accounting	M1	KS	6
WS	Gender Studies for Management	M1	SE	4
WS	Global Strategic Management	M2	SE	3
WS	Human Resource Architectures & Management	M2	SE	4
WS	Intercultural Competence	M1	SE	2
WS	International Marketing Communication and Social Media	M2	SE	3
WS	International Marketing Management	M2	SE	6
WS	Introduction to Marketing Management	M1	KS	6
WS	Key Sales Skills and Sales Psychology	M1	SE	2
WS	Leaders, Groups and their Organizational Environment	M2	SE	6
WS	Managerial Accounting	M1	KS	6
WS	Negotiation Skills	M1	SE	2
WS	Organization	M1	KS	6
WS	Presentation and moderation skills	M1	SE	2
WS	Qualitative Research Methods	M1	SE	3
WS	Quantitative Research Methods	M1	SE	3
WS	Strategic management in dynamic and complex environments	M2	SE	4
WS	Team Development & Group Dynamics	M1	SE	2
WS	Virtual Collaboration in a Global Context	M2	SE	6
SS	Advances in Leadership, Human Resource Management and Change	M1	KS	6
SS	Business Ethics	M1	SE	2
SS	Consumer Insights and Relationship Marketing	M1	SE	2
SS	Contemporary Issues in Marketing Management	M1	SE	4
SS	Corporate Finance	M1	KS	6
SS	Creating Strategic Advances	M1	KS	6
SS	Entrepreneurship	M1	KS	6

SS	Financial Accounting	M1	KS	6
SS	Gender Studies for Management	M1	SE	4
SS	Intercultural Competence	M1	SE	2
SS	Introduction to Digital Transformation and Technologies	M1	SE	6
SS	Introduction to Marketing Management	M1	KS	6
SS	Key Sales Skills and Sales Psychology	M1	SE	2
SS	Managerial Accounting	M1	KS	6
SS	Negotiation Skills	M1	SE	2
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	Business Models and the impact of Digitalization & sustainability	M2	SE	4
SS	Digital Transformation: Continuous Change & Ambidexterity	M2	SE	3
SS	Digital Transformation: Managing Change	M2	SE	4
SS	Global Strategic Management	M2	SE	3
SS	Human Resource Architectures & Management	M2	SE	4
SS	International Marketing Communication and Social Media	M2	SE	3
SS	Leaders, Groups and their Organizational Environment	M2	SE	6
SS	Strategic management in dynamic and complex environments	M2	SE	4
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.

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 Inorganic Technology	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 Laboratory Safety	KV	1
WS	Chemical Process Engineering	VL	3
WS	Computational Chemistry	KV	1,5
WS	Data Processing in Chemistry	KV	1,5
WS	Electrochemistry	VL	1,5
WS	Exercises in Chemical Calculations	KV	3
WS	Exercises in Chemical Reaction Engineering	UE	1,5
WS	Exercises In Physical Chemistry I	UE	1,5
WS	Exercises in Physical Chemistry for Biological Chemistry I	UE	1,5
WS	Exercises in Polymer Chemistry	UE	1,5
WS	In-depth Fundamentals in Organic Chemistry	KV	1,5
WS	In-depth fundamentals of Preparative Organic Chemistry for Biological Chemistry	KV	1,5
WS	Inorganic Chemistry I	VL	4,5
WS	Instrumental Analytical Chemistry	VL	3
WS	Interpretation of NMR Spectra and Structure Elucidation of Organic Molecules	UE	1,5
WS	Introduction into Gender Studies in Science and Engineering	KV	3
WS	Introduction to Analytical Chemistry	VL	1,5
WS	Introduction to Chemical Calculations	VL	1,5
WS	Introduction to General Chemistry	VL	3
WS	Introduction to Organic Chemistry	VL	3
WS	Introduction to Physics for Chemistry	KV	1,5
WS	Introductory Lab Course	PR	2
WS	Lab Course in Instrumental Analysis	PR	5
WS	Lab Course in Physical Chemistry	PR	4
WS	Lab Course in Preparative Organic Chemistry I	PR	6
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	Proseminar to VL Organic Chemistry 2	PS	1,5
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	Sequence Analysis and Phylogenetics	UE	3
WS	Sequence Analysis and Phylogenetics	VL	3
WS	Scientific Writing and Presenting	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	Biochemistry	VL	3
SS	Biotechnology	VL	1,5
SS	Catalysis	VL	3
SS	Chemical Kinetics	VL	1,5
SS	Chemical Thermodynamics	KV	1,5
SS	Dye Chemistry and Functional Dyes	VL	1,5
SS	Exercises in Chemical Calculations	KV	3
SS	Exercises in Chemical Kinetics and Catalysis	UE	1,5
SS	Exercises in Physical Chemistry II	UE	1,5
SS	Exercises in Physics for Chemistry	UE	1,5
SS	Fundamentals of Inorganic Materials	VL	3
SS	Genomic Data Analysis	VU	6
SS	Inorganic Chemistry II	VL	4,5
SS	Introduction into Gender Studies in Science and Engineering	KV	3
SS	Introduction to Genetics	VL	1,5
SS	Lab Course in Analytical Chemistry	PR	5
SS	Lab Course in Analytical Chemistry for Biological Chemists	PR	5
SS	Lab Course in General Chemistry	PR	2
SS	Lab Course in Electrochemistry	PR	1
SS	Lab Course in Inorganic Chemistry	PR	5
SS	Lab Course in Preparative Organic Chemistry II	PR	5
SS	Legislation for Chemists	VL	1,5
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
SS	Proseminar to VL Organic Chemistry 1	PS	3
SS	Scientific Writing in Technical and Natural Sciences	KV	3

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 Organic Chemistry 1	VL	3
WS	Advanced Polymer Synthesis Lab Course	PR	5
WS	Advanced Thin Film Technologies	VL	1,5
WS	Biocatalysis	VL	1,5
WS	Biochemical Laboratory Techniques	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	Current Topics in Technologies	VL	1,5
WS	Design of Lightweight Structures	KV	3
WS	Dye Chemistry and Functional Dyes	VL	1,5
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	Gender Studies Managing Equality TN	KV	3
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	Inorganic Materials in High-Tech Applications	VL	3
WS	Inorganic Technology Seminar	SE	1,5
WS	International Finance for Engineers	IK	3
WS	International Marketing for Engineers	IK	3
WS	Interpretation of MS and IR Spectra	UE	1,5
WS	Introduction to Mathematics	KV	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 for Biological Chemistry	PR	4

WS	Lab Course in Physical Chemistry III	PR	6
WS	Lab Course in Polymerization Techniques	PR	4
WS	Lab Course of Instrumental Analysis for Biological Chemistry	PR	2
WS	Laboratory Course of Analytic Chemistry	PR	4
WS	Laboratory Course of Organic Chemistry	PR	4
WS	Laboratory Course of Preparative Organic Chemistry for Biological Chemistry	PR	6
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	Modeling of biological macromolecules I	PR	3
WS	Molecularly Imprinted Polymers	VL	1,5
WS	Organic chemistry laboratory bridge course	PR	4
WS	Organic Electronics – From fundamentals to applications	VL	3
WS	Organic Semiconductors: Spectroscopy in organic Semiconductors	VL	3
WS	Organic Technology Seminar	SE	1,5
WS	Organometallic Chemistry	VL	3
WS	Patent Law and Intellectual Property	VL	3
WS	Photochemistry 1	VL	1,5
WS	Physical Chemistry for Biological Chemistry I	VL	4,5
WS	Physical Chemistry of Macromolecular Materials	VL	4,5
WS	Plastics Recycling – From Waste Management and Processing to Performance	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	Practical Atomic Force Microscopy	PR	2
WS	Practical NMR	PR	2
WS	Research Laboratory – Synthesis	PR	3
WS	Safety Engineering	VL	3
WS	Scientific Tutorial in Polymer Extrusion and Compounding	SE	4,5
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	Seminar in Process and Plant Engineering	SE	1,5
WS	Sequence Analysis and Phylogenetics	UE	3
WS	Sequence Analysis and Phylogenetics	VL	3
WS	Structural Health Monitoring	VL	3
WS	Structural Rheology for Chemistry	VL	3
WS	Structure and Properties of Biological Materials 1	VL	1,5
SS	Advanced Chemical Reaction Engineering	VL	1,5
SS	Advanced Instrumental Analysis	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	VU	3
SS	Applied Measurement and Control in Polymer Processing	KV	1,5
SS	Basic Plant Design and Engineering	VL	3
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	1,5
SS	Cross Cultural Management for Engineers	IK	3
SS	Current Topics in Biological Chemistry	VL	1,5
SS	Current Topics in Physical and Biophysical Chemistry: Bioorganic Electronics	VL	1,5
SS	Current Topics in Synthesis: Synthesis and biosynthesis of secondary metabolites	VL	1,5
SS	Current Topics in Technologies: Applied Process Engineering	VL	1,5
SS	Excursion to Industry	VL	0.5
SS	Formulations of Polymers	VL	1,5
SS	Functional Polymers	VL	1,5
SS	Genomic Data Analysis	VU	6
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	Industrial Catalysis	VL	3
SS	Inorganic Chemistry 3	VL	3
SS	Inorganic Technology Seminar	SE	1,5
SS	Instrumentation and Process automation	VL	3
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 Chemical Technology	PR	3
SS	Lab Course in Instrumental Analytical Chemistry for Molecular Biology	PR	3
SS	Lab course in organic electronics	PR	2
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 electronics	VL	3
SS	Organic Technology Seminar	SE	1,5
SS	Photochemistry 2	VL	1,5
SS	Photovoltaics	VL	3
SS	Physical and Theoretical Chemistry	VL	3
SS	Physical Chemistry of Surfaces and Interfaces	VL	1,5
SS	Physics and Chemistry of Organic Semiconductors	VL	3
SS	Polymer Chemistry and Chemical Process Technologies	VL	2,5
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	Polymeric Materials 5: Polymeric Mat. & Syst. Devlopm.	KV	3
SS	Polymerization Techniques	VL	3
SS	Polyolefins	VL	1,5
SS	Practical NMR	PR	2
SS	Practical Photochemistry	PR	2
SS	Preparative Chemistry Laboratory for Biological Chemists	PR	5
SS	Protein Science	VL	1,5
SS	Science and Technology of Organic Semiconductors	SE	1,5
SS	Scientific Tutorial in Polymer Extrusion and Compounding	SE	4,5
SS	Scientific Tutorial in Polymer Injection Moulding	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 Process and Plant Engineering	SE	1,5
SS	Seminar in Structural and Computational Biochemistry	SE	1,5
SS	Spectroelectrochemistry	VL	3
SS	Stereochemistry	VL	3
SS	Structural Durability Calculations	UE	1,5

Sem.	Title	Course type	ECTS credits
SS	Synthetic Polymers for Biology and Medicine	VL	1,5
SS	Technical Biopolymers	VL	1,3

3.3. Information and Communication Technologies – Bachelor Level

Sem.	Title	Course type	ECTS credits
WS	Algorithms and Data Structures 2	UE	1,5
WS	Algorithms and Data Structures 2	VO	3
WS	Artificial Intelligence	UE	1,5
WS	Artificial Intelligence	VO	3
WS	Basic Methods of Data Analysis	KV	3
WS	Computational Logics for AI	UE	1,5
WS	Computational Logics for AI	VL	3
WS	Hands-on AI I	UE	1,5
WS	Hands-on AI I	VL	1,5
WS	Introduction to AI	VL	3
WS	Introduction to Computational Statistics	UE	1,5
WS	Introduction to Computational Statistics	VL	3
WS	Introduction to Machine Learning	VL	3
WS	Lecture Series Artificial Intelligence	KV	1,5
WS	Logic	UE	1,5
WS	Logic	VL	3
WS	Machine Learning: Supervised Techniques	UE	1,5
WS	Machine Learning: Supervised Techniques	VL	3
WS	Mathematics for AI I	UE	3
WS	Mathematics for AI I	VL	6
WS	Mathematics for AI I	KO	1
WS	Mathematics for AI III	VL	6
WS	Mathematics for AI III	KO	1
WS	Mathematics for AI III	UE	3
WS	Natural Language Processing	UE	1,5
WS	Natural Language Processing	VL	1,5
WS	Networked Embedded Systems	PR	3
WS	Networked Embedded Systems	VL	1,5
WS	Practical Work in AI	PR	7,5
WS	Preparation Course in Mathematics for AI	VK	1
WS	Preparation Course in Python Programming for new AI Students	VK	1
WS	Programming in Python I	UE	3
WS	Programming in Python I	VL	3
WS	Project in Software Egineering	PR	7,5
WS	Reinforcement Learning	UE	1,5
WS	Reinforcement Learning	VL	3

Sem.	Title	Course type	ECTS credits
WS	Responsible AI	KV	3
WS	Software Engineering	UE	1,5
WS	Software Engineering	VO	3
WS	Systems Programming	UE	1,5
WS	Visual Analytics	UE	1,5
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	Digital Signal Processing	UE	1,5
SS	Digital Signal Processing	VL	3
SS	Formal Models	UE	1,5
SS	Formal Models	VL	3
SS	Hands-on AI II	UE	3
SS	Hands-on AI II	VL	1,5
SS	Machine Learning: Unsupervised Techniques	UE	1,5
SS	Machine Learning: Unsupervised Techniques	VL	3
SS	Mathematics for AI II	UE	3
SS	Mathematics for AI II	VL	6
SS	Mathematics for AI II	KO	1
SS	Numerical Optimization	UE	1,5
SS	Numerical Optimization	VL	3
SS	Programming in Python II	UE	1,5
SS	Programming in Python II	VL	1,5
SS	Seminar in AI	SE	3
SS	Statistics for AI	UE	3
SS	Statistics for AI	VL	3
SS	Technology and Society	KV	3

3.4. Information and Communication Technologies – Master Level

Sem.	Title	Course type	ECTS credits
WS	Advanced Digital Communications	KV	3
WS	AI and Law 1	VL	3
WS	Artificial Intelligence in Society	KV	1,5
WS	Assistive Technologies and Accessibility	KV	3
WS	Cloud Computing	KV	1,5
WS	Communicating AI	KV	1,5
WS	Computer Forensics and IT Law	VL	3
WS	Computer Forensics and IT Law	UE	1,5
WS	Computer Vision	VL	3
WS	Computer Vision	UE	1,5
WS	Control Systems	UE	1,5

WS	Control Systems	VL	3
WS	Deep Learning and Neural Nets I	UE	1,5
WS	Deep Learning and Neural Nets I	VL	3
WS	Explainable AI	UE	1,5
WS	Explainable AI	VL	1,5
WS	Formal Methods in Software Development	KV	4,5
WS	Human/Computer Interaction	KV	3
WS	Information Retrieval and Extraction	KV	3
WS	Information Security Management	KV	3
WS	Introduction to IT Security	VL	3
WS	Knowledge Based Systems	KV	3
WS	LSTM and Recurrent Neural Nets	UE	1,5
WS	LSTM and Recurrent Neural Nets	VL	3
WS	Mobile Computing	KV	3
WS	Model Checking	UE	1,5
WS	Model Checking	VL	4,5
WS	Model Engineering for Data-Intensive Systems	KV	3
WS	Modeling and Computer Simulation	KV	3
WS	Multimedia Search and Retrieval	KV	4,5
WS	Optimum and Adaptive Signal Processing Systems	UE	1,5
WS	Optimum and Adaptive Signal Processing Systems	VL	3
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	Planning and Reasoning in Artificial Intelligence	UE	1,5
WS	Planning and Reasoning in Artificial Intelligence	VL	3
WS	Practical Introduction to Modern System Design with C++	KV	4,5
WS	Practical Work in AI	PR	7,5
WS	Principles of Cooperation	KV	4,5
WS	Principles of Programming Languages	KV	3
WS	Probabilistic Models	UE	1,5
WS	Probabilistic Models	VL	3
WS	Production Automation Systems	VL	3
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 Networks and Security	PR	7,5
WS	Project in Pervasive Computing	PR	7,5
WS	Quantum Computing	VL	3
WS	Radar System Engineering	UE	1,5
WS	Radar System Engineering	VL	3
WS	Requirements Engineering	KV	3
WS	Seminar in AI	SE	3
WS	Seminar in Computational Engineering: Bioinformatics and Machine Learning	SE	3

WS	Seminar in Computational Engineering: Automated reasoning	SE	3
WS	Seminar in Computational Engineering: Computational perception	SE	3
WS	Seminar in Computational Engineering: Open-Source Hardware, RISC-V and Design Automation	SE	3
WS	Seminar in Intelligent Information Systems: Information Integration	SE	3
WS	Seminar in Intelligent Information Systems: Chatbots, NLP, Web Engineering	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 Persuasive Computing	SE	3
WS	Seminar in Software Engineering: AI-driven Software Systems	SE	3
WS	Special Topics: Android Security	KV	1,5
WS	Special Topics: Big Data Sketching	KV	1,5
WS	Special Topics: Smartcards & NFC	KV	1,5
WS	Special Topics: Formal Languages and Formal Grammars II	VL	3
WS	Special Topics: Functional Programming	KV	1,5
WS	Special Topics: Game Development	KV	4,5
WS	Special Topics: Logic Programming	VL	3
WS	Special Topics: Pentesting	KV	3
WS	Special Topics: Programming in Kotlin	KV	3
WS	Special Topics: Modern Front-End Web Development	KV	1,5
WS	Special Topics: Music Informatics	KV	4,5
WS	Special Topics: Social Media Mining and Analysis	KV	4,5
WS	Special Topics: The Rust Programming Language	KV	1,5
WS	Special Topics: Visual Data Science Journal Club	UE	1,5
WS	Special Topics: Supply Chain Security	KV	3
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	Artificial Intelligence in Life Sciences	UE	1,5
SS	Artificial Intelligence in Life Sciences	VL	1,5
SS	Big Data Engineering	KV	3
SS	Big Data Management and Processing	KV	3
SS	Cloud Security	KV	3
SS	Computational Data Analysis	PR	1,5
SS	Computational Data Analysis	KV	3

SS	Computer Algebra for Concrete Mathematics	UE	1,5
SS	Computer Algebra for Concrete Mathematics	VL	3
SS	Conceptual Data Modeling	KV	3
SS	Cryptography	KV	3
SS	Debugging	KV	3
SS	Deep Learning and Neural Nets II	UE	1,5
SS	Deep Learning and Neural Nets II	VL	3
SS	Deep Reinforcement Learning	UE	1,5
SS	Deep Reinforcement Learning	VL	3
SS	Electronic and Optoelectronic Devices	UE	1,5
SS	Electronic and Optoelectronic Devices	VL	4,5
SS	Engineering of AI-intensive Systems	KV	3
SS	Genome Analysis & Transcriptomics	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 to autonomous vehicles	KV	6
SS	Introduction to Robotic Systems	UE	1,5
SS	Introduction to Robotic Systems	VL	3
SS	Knowledge Representation and Learning	UE	1,5
SS	Knowledge Representation and Learning	VL	3
SS	Learning from User-generated Data	VL	3
SS	Learning from User-generated Data	UE	1,5
SS	Machine Learning and Pattern Classification	VL	3
SS	Machine Learning and Pattern Classification	UE	1,5
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 Interaction	KV	4,5
SS	Product Line Engineering	KV	3
SS	Project in Computational Engineering	PR	7,5
SS	Project in Data Science	PR	7,5
SS	Project in Intelligent Information Systems	PR	7,5
SS	Project in Networks and Security	PR	7,5
SS	Project in Pervasive Computing	PR	7,5
SS	Project in Software Engineering	PR	7,5
SS	SAT Solving	KV	3
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: Music Information Retrieval	SE	3
SS	Seminar in Data Science: Computational Data Analytics	SE	3
SS	Seminar in Intelligent Information Systems: Assistive Technologies	SE	3
SS	Seminar in Intelligent Information Systems: Information Systems	SE	3
SS	Seminar in Intelligent Information Systems: Multimedia Information Retrieval	SE	3
SS	Seminar in Intelligent Information Systems: Chatbots, NLP, Web Engineering	SE	3
SS	Seminar in Intelligent Information Systems	SE	3
SS	Seminar in Intelligent Information Systems Blockchains, Gamification, Social Media/IoT Event Log Mining, Crowdsourcing, Model Engineering	SE	3
SS	Seminar in Networks and Security: Cryptography and Security Infrastructures	SE	3
SS	Seminar in Pervasive Computing: Pervasive Computing	SE	3
SS	Seminar in Pervasive Computing: Computer Graphics	SE	3
SS	Seminar in Pervasive Computing: Autonomous Machines, Vehicles and Robots – and the Human in the Loop	SE	3
SS	Seminar in Software Engineering: Memory Monitoring and Analysis	SE	3
SS	Seminar in Software Engineering: Software Modernization	SE	3
SS	Software Architectures	KV	4,5
SS	Software Processes and Tools	KV	3
SS	Software Testing	KV	3
SS	Special Topics: Affective Computing	KV	4,5
SS	Special Topics: Audio and Music Processing	KV	3
SS	Special Topics: Decision Making in Security	KV	3
SS	Special Topics: Dynamic Compilation and Run-time Optimization in Virtual Machines	KV	1,5
SS	Special Topics: Formal Specification of Software	VL	3
SS	Special Topics: Functional Programming	VL	3
SS	Special Topics: Functional Programming in Java	KV	3
SS	Special Topics: Programming in Mathematica	KV	3
SS	Special Topics: Games User Research	KV	4,5
SS	Special Topics: Graph Databases	KV	3
SS	Special Topics: Introduction to Full Stack Web Development	KV	1,5
SS	Special Topics: Machine Learning and Audio: a challenge	KV	3
SS	Special Topics: Micro:bit robots – cars, arms and automatic control	KV	1,5
SS	Special Topics: Multimedia Data Mining	KV	4,5
SS	Special Topics: Mathematica Logic	VL	3
SS	Special Topics: Next-Generation Firewalls	KV	3
SS	Special Topics: Parallel and Ansynchronous Programming with -NET	KV	1,5
SS	Special Topics: Security Infrastructures	KV	3
SS	Special Topics: Semantics of Programming Languages	KV	1,5
SS	Special Topics: Software Development with C#	KV	1,5
SS	Special Topics: Visual Data Science Journal Club	UE	1,5
SS	Special Topics: Wireless LANs	KV	1,5
SS	Special Topics: Wireless Networks	KV	3

Sem.	Title	Course type	ECTS credits
SS	Special Topics in Electronics and Information Technology: Signal Detection	KV	3
SS	Structural Bioinformatics	KV	3
SS	Systems Security	KV	3
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	Web Security	KV	3

3.5. Mathematics – Bachelor Level

Sem.	Title	Course type	ECTS credits
WS	Algebra and Discrete Mathematics	SE	3
WS	Algebraic combinatorics	UE	1,5
WS	Algorithms and data structures	VL	3
WS	Algorithms and data structures	UE	1,5
WS	Commutative algebra and algebraic geometry	VL	3
WS	Computer Algebra	UE	1,5
WS	Computer Algebra	VL	3
WS	Design and Analysis of Algorithms	VL	3
WS	Differential Geometry	UE	1,5
WS	Geometry: Recent Results in Computer Aided Geometric Design	SE	3
WS	Manyvalued Logic	UE	1,5
WS	Manyvalued Logic	VL	3
WS	Mathematical Methods in Engineering	SE	3
WS	Numerical Analysis	SE	3
WS	Numerical methods for partial differential equations	UE	3
WS	Practical in Symbolic Computation	KV	3
WS	Special topics numerical analysis	UE	1,5
WS	Special topics numerical analysis	VL	3
WS	Special topics symbolic computation: Computer algebra systems	VL	3
WS	Special Topics symbolic computation: Homological Algebra	VL	3
WS	Special course analysis: Approximation theory for Machine Learning	VL	3
WS	Stochastic Processes	UE	1,5
WS	Symbolic Computation: Research Topics in Algebra and Combinatorics	SE	3
WS	Symbolic Computation: Computer Algebra and Applications I	SE	3
SS	Advanced Computer Algebra	UE	1,5
SS	Algebra and Discrete Mathematics	SE	3
SS	Computability theory	VL	3
SS	Computer-aided geometric design	UE	1,5
SS	Complex Analysis	UE	3
SS	Dynamical Systems and Chaos	UE	2,5

SS	Geometry	SE	3
SS	Introduction to parallel and distributed computing	VL	3
SS	Mathematical logic	UE	3
SS	Mathematical Methods in Engineering	SE	3
SS	Practical in Symbolic Computation: Functional programming	KV	3
SS	Practical in Symbolic Computation: Programming in Mathematica	KV	3
SS	Special Topics Numerical Analysis: Numerical methods for differential-algebraic equations	UE	1,5
SS	Special Topics Numerical analysis: Numerical methods for differential-algebraic equations	VL	3
SS	Special Topics symbolic computation: Abelian Categories – spectral Sequences and Applications	VL	3
SS	Special Topics symbolic computation: Formal Specification of Abstract Datatypes	VL	3
SS	Special Topics symbolic computation: Mathematical Methods in Kinematics	VL	3
SS	Special Topics symbolic computation: Unification Theory	VL	3
SS	Spectral theory and distributions	UE	3
SS	Stochastic Simulation	UE	1,5
SS	Stochastic Simulation	VO	3
SS	Symbolic Computation: Project seminar Formal Methods and Automated Reasoning II	SE	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	Algebraic combinatorics	VL	3
WS	Applied Number Theory	VL	3
WS	Automated Reasoning	VL	3
WS	Differential geometry	VO	3
WS	Dynamical systems and chaos	VO	3
WS	Financial Mathematics	VO	4,5
WS	Integral equations and boundary value problems	VO	6
WS	Integral Equations and Boundary Value Problems	UE	1,5
WS	Mathematical logic 1	VL	3
WS	Mathematical Methods in Continuum Mechanics	UE	1,5
WS	Mathematical Methods in Continuum Mechanics	VO	6
WS	Planning, writing and presenting an academic paper	UE	3
WS	Statistical Methods	VO	3
WS	Stochastic Processes	VO	3
WS	Symbolic Summation and Integration	VL	4,5

Sem.	Title	Course type	ECTS credits
SS	Advanced Computer Algebra	VL	3
SS	Complex Analysis	VL	4,5
SS	Computational Modeling in Medicine and Life Scienc	VL	3
SS	Discrete Mathematics	VL	3
SS	Dynamical Systems and Chaos	VO	3
SS	Inverse Problems	VO	3
SS	Mathematical Logic	VL	3
SS	Numerical methods for elliptic equations	VO	6
SS	Numerical methods for elliptic equations	UE	3
SS	Spectral theory and distributions	VL	4,5
SS	Wavelets – Functional Analytical Basics	VL	3

3.7. Physics – Bachelor Level

Sem.	Title	Course type	ECTS credits
WS	Genomic Data Analysis	VU	6
WS	Organic Chemistry for Physics	VL	3
WS	Physics 1 for Biological Chemistry	KV	1,5
WS	Project seminar Technical Physics	SE	9
SS	Algorithms and Data Structures in Physics	PR	3
SS	Introduction to Laser Processing	VL	3
SS	Nanoscience and Nanomaterials	VL	3
SS	Physics of Soft Matter	VO	3
SS	Project seminar Technical Physics	SE	9
SS	Scientific Writing in Technical and Natural Sciences	KV	3
SS	Semiconductor physics	UE	1,5
SS	Seminar in applied physics: Applications of Lasers in Modern Life	SE	3
SS	Seminar in semiconductor physic: Silicon Based Integrated Quantum Optics	SE	3
SS	Seminar in physics of soft materials		
SS	Surface science I	UE	1,5
SS	Vacuum technology and physics	VO	3

3.8. Physics – Master Level

Sem.	Title	Course type	ECTS credits
WS	Advanced Semiconductor Physics	UE	1,5
WS	Advanced Solid State Physics	UE	1,5
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	Ethics and Gender Studies	VO	3
WS	Exercises in biophysics I	UE	1,5
WS	Experiment in Theoretical Physics	PR	0,75
WS	Laboratory Course in Semiconductor Physics	PR	9
WS	Laboratory Course in Surface and Nano Analytics	PR	9
WS	Laser physics	UE	1,5
WS	Laser physics	VO	3
WS	Magnetometry	PR	1,5
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	Nanomagnetism and spintronics	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	VL	3
WS	Physics of Soft and Complex Matter	UE	1,5
WS	Physics of Soft and Complex Matter	VL	3
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	Self-Assembly of Nano Structures	PR	1,5
WS	Self-Assembly of Nano Structures	VO	3
WS	Seminar in applied physics: Laser-matter interactions	SE	3
WS	Seminar in physics of soft materials: Soft electronics and robotics	SE	3
WS	Seminar in semiconductor physics: Silicon Based Photonics	SE	3
WS	Seminar in solid state physics: Spintronik	SE	3
WS	Seminar on Recent Progress in Applied Physics	SE	3
WS	Seminar on Recent Progress in Semiconductor Physics	SE	3
WS	Seminar on Recent Progress in Surface and Nano Analytics	SE	3
WS	Special topics in Applied Physics: finite elements for laser processing analysis	VO	3
WS	Special Topics in Physics of Soft Matter: Polar and electroactive polymers	VO	3
WS	Special topics in solid state physics: Quantum Materials	VO	3
WS	Superconductivity and low temperature physics	UE	1,5
WS	Numerical Simulations	VO	3
WS	Statistical Physics I	UE	1,5
WS	Statistical Physics I	VO	3
WS	Theoretical biophysics I	UE	1,5
WS	Theory of Condensed Matter	VO	3
WS	Topics in Genetics & Evolution	KV	3
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	Experiment in Theoretical Physics	PR	0,75
SS	Laboratory Course in Semiconductor Physics	PR	9
SS	Laboratory Course in Soli State Physics	PR	9
SS	Laboratory Course in Surface and Nano Analytics	PR	9
SS	Modeling of biological macromolecules II	PR	3
SS	Nanoforum	KV	3
SS	Nanooptics	VO	3
SS	Relativistic Theory	UE	1,5
SS	Relativistic Theory	VL	3
SS	Research Seminar in Solid State Physics	SE	3
SS	Research seminar in surface and nano analytics	SE	3
SS	Semiconductor-Hetero- and Quantum-Well-structures	VO	3
SS	Semiconductor Technology	PR	1,5
SS	Semiconductor Technology	VO	3
SS	Seminar in Nanoscience and – Technology	SE	3
SS	Seminar on Recent Progress in Applied Physics	SE	3
SS	Seminar on Recent Progress in Semiconductor Physics	SE	3
SS	Seminar on Recent Progress in Solid State Physics	SE	3
SS	Seminar on Recent Progress in Surface and Nano Analytics	SE	3
SS	Smart Materials	VO	3
SS	Special topics in Applied Physics: Ultrahigh resolution in optical microscopy	VO	3
SS	Special topics in Applied Physics: finite elements for laser processing analysis	VO	3
SS	Special topics in semiconductor physics	VO	3
SS	Special Topics in Solid State Physics: Nanocarbons	VO	3
SS	Special Topics in Solid State Physics: Quantum transport in condensed matter systems	VO	3
SS	Special Topics in Theoretical Physics	VO	3
SS	Theoretical Quantum Mechanics II	UE	1,5

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	Austrian Bankruptcy Law	VL	1,5
WS	Precourse Legal English	KV	3
WS	Public International Law	VL	1
WS	Purchase tax and transfer tax	PS	5,5
SS	Financial and Economic Sanctions Law	VL	1,5
SS	Precourse Legal English	KV	3
SS	Public International Law	VL	1
SS	International Commercial Arbitration	VL	1,5
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 – Text 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
WS&SS	German – Understanding Upper Austrian Dialect	UE	1
WS&SS	German – Conversation	UE	3