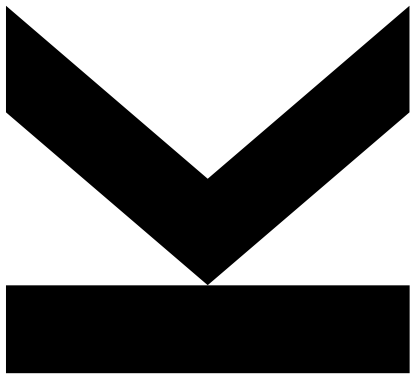


Information meeting Master programs PTS & MPT



Students' representatives of Polymer Technologies



**JOHANNES KEPLER
UNIVERSITY LINZ**
Altenberger Straße 69
4040 Linz, Austria
jku.at

Agenda

- Bachelor graduation
- Main differences between PTS and MPT
- Elective Tracks MPT
- Elective Tracks PTS
- Elective Seminars
- Master Thesis
- Master's Examination

On request:

- Polymer Chemistry

Bachelor graduation



Bachelor graduation

- Finish all mandatory and elective lectures and free electives
- Write your Bachelor Thesis
- Fill out the form: <https://www.jku.at/studieren/studium-von-a-z/abschluesse/bachelorabschluss/>
(“Prüfungsraster”, use the “Ausfüllhilfe Prüfungsraster”, which you can find in KUSSS)
- It is possible to hand in the form with one missing grade
- If you get the missing grade, just call the Department of Examination and Recognition Services
(„Prüfungs- und Anerkennungsservice“)

Agenda

- Bachelor graduation
- Main differences between PTS and MPT
- Elective Tracks MPT
- Elective Tracks PTS
- Elective Seminars
- Master Thesis
- Master's Examination

On request:

- Polymer Chemistry

PTS vs MPT



Main differences between PTS and MPT

Structure

Polymer Technologies and Science PTS (479)

Subjects	ECTS
Mandatory Subjects	50.8
Elective Subjects	30.2
Master's Thesis (incl. Master's Thesis Seminar)	25
Master's Examination	2
Free Electives	12
Total	120

Management in Polymer Technologies MPT (480)

Subjects	ECTS
Subjects	81
Master's Thesis (incl. Master's Thesis Seminar)	25
Master's Examination	2
Free Electives	12
Total	120

Structure

Polymer Technologies and Science PTS (479)

Mandatory Subjects	ECTS
Polymeric Materials and Testing	16.8
Polymer Product Engineering	16.5
Polymer Processing	17.5

Management in Polymer Technologies MPT (480)

Subjects	ECTS
Basics in Polymer Technologies (Bridge Subjects)	0/19 ¹
Management Basics	12
Management Advanced	15
Advanced Polymer Technologies	25
Advanced Electives in Management and Polymer Technologies	29/10 ¹

1...If admission to the Master's program has been based on a Bachelor's degree program in „Polymer Engineering and Technologies“ (according to § 2 (2)), then the subject „Advanced Electives in Management and Polymer Technologies“ with an amount of 29 ECTS is required.

Alternately, if admission to the program had been based on another Bachelor's degree program, according to § 2 (3), then it is necessary to take the Bridge Subject „Basics in Polymer Technologies“ and the subject „Advanced Electives in Management and Polymer Technologies“ with an amount of 10 ECTS points is required. [Find more details in the Master Curriculum for Management in Polymer Technologies (MPT)]

Prerequisites MPT

- Management and Marketing IK and VL
 - IK Cross Cultural Management for Engineers (2nd semester)
 - IK International Marketing for Engineers (3rd semester)
- Finance, Accounting and Taxation IK and VL
 - IK International Finance for Engineers (3rd semester)
 - IK Managerial Accounting for Engineers (3rd semester)

Substitution for FAT

- Instead of FAT IK and VL you can do „Managerial Economics“ and „Zahlungsbilanz und Devisenmarkt“
- For recognition ask Prof. Lang

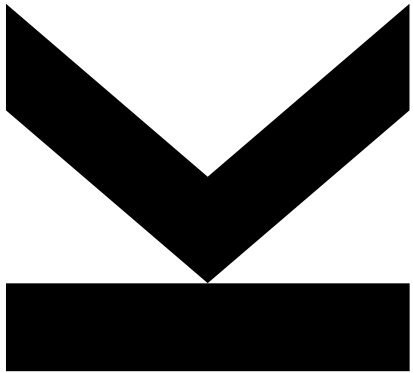
Agenda

- Bachelor graduation
- Main differences between PTS and MPT
- Elective Tracks MPT
- Elective Tracks PTS
- Elective Seminars
- Master Thesis
- Master's Examination

On request:

- Polymer Chemistry

Elective Tracks MPT



Sub-groups of advanced Electives (MPT)

- Sub-group „Management, Economics and Law“
 - General management and micro-economics
 - Macro-economics
 - Specific topics related to technical law
- Sub-group „Polymer Technologies and Science“
 - Polymer chemistry and physical chemistry
 - Polymer related chemical process and production technologies
 - Advanced polymer processing technologies
 - Polymer product and process development
- Sub-group „Sustainable Development and Global Change“
- Sub-group „Soft Skills“
 - Gender and diversity

Sub-groups of advanced Electives (MPT)

Guidelines for distribution

Advanced Electives in Management and Polymer Technologies	29/10
Management, Economics and Law	0-26
Polymer Technologies and Science	3-29 ¹
Sustainable Development and Global Change	0-18
Soft Skills	0-3

¹ at least one Seminar

Advanced Electives (MPT) Management

Lecture	Type	ECTS	Availability
Production and Logistic Management	KS	2,00	SS/WS
Global Management and Strategy	SE	3,00	SS

Advanced Electives (MPT)

Economics

Lecture	Type	ECTS	Availability
Empirical Economic Research	KS	4,00	WS
Empirical Economic Research	IK	2,00	WS
Introduction to Economics	KS	3,00	SS/WS
Income, Employment and Financial Markets	KS	4,00	SS/WS
Markets and Economic Decision Making	KS	4,00	SS/WS
Markets and Economic Decision Making	IK	4,00	SS/WS
Market Economy and Government Activities	KS	3,00	SS/WS
Market Economy and Government Activities	IK	3,00	SS/WS
Income, Employment and Financial Markets	IK	3,00	SS/WS
Managerial Economics	KS	3,00	SS/WS
Taxes and Government Expenditure	KS	3,00	SS/WS
Growth, Cycles and Economic Policy	KS	3,00	SS/WS
Balance of Payments and Exchange Rates	KS	3,00	SS/WS

Advanced Electives (MPT)

Law for Engineering

Lecture	Type	ECTS	Availability
Fundamentals of company law and law of associations	VL	2,00	SS
Law of employment relationship	VL	2,00	WS
Standardisation and technics	VL	2,00	WS
Public Law	VL	4,00	WS
Civil law	VU	4,00	WS
Law concerning quality assurance and product liability	VL	2,00	SS/WS
Patent Law and Intellectual Property	VL	2,60	SS

Advanced Electives (MPT)

Polymer Technologies and Science

Lecture	Type	ECTS	Availability
Structure and Properties of Biological Materials	VL	1,30	WS
Structural Rheology to Polymer Chemistry	KV	3,00	SS
Applied Measurement and Control in Polymer Processing	KV	1,50	SS
Design of Lightweight Structures	UE	2,50	WS
High Resolution Microscopy II - Scanning Probe Techniques	VL	1,50	SS
Structure Development in Polymeric Materials	VL	3,00	WS
Photovoltaic	VL	3,00	SS
Physical Chemistry of Surfaces and Interfaces	VL	1,50	SS
Polymer Extrusion and Compounding 2: Modelling Screw Extrusion	VL	3,00	SS
Polymer Injection Moulding 1: Machine Engineering	UE	1,50	WS
Polymer Injection Moulding 2: Process Technologies	KV	3,00	SS

Advanced Electives (MPT)

Polymer Technologies and Science

Lecture	Type	ECTS	Availability
Scientific Tutorial in Polymeric Materials and Testing	SE	4,50	SS/WS
Scientific Tutorial in Polymer Extrusion and Compounding	SE	4,50	SS/WS
Scientific Tutorial in Polymer Injection Moulding	SE	4,50	SS/WS
Scientific Tutorial in Polymer Product Engineering	SE	4,50	SS/WS
Seminar in Polymer Injection Moulding	SE	3,00	SS/WS
Seminar in Polymer Extrusion and Compounding	SE	3,00	SS/WS
Seminar in Polymeric Materials and Testing	SE	3,00	SS/WS
Seminar in Polymer Product Engineering	SE	3,00	SS/WS
Packaging	VL	2,50	WS
Safety Analysis and Modeling	KV	3,00	SS
Chemical Interactions in Polymers	VL	1,30	SS
Laboratory Course of Polymer Chemistry 2	PR	6,00	SS
Exercises in Polymer Chemistry 2	UE	1,60	WS

Advanced Electives (MPT)

Polymer Technologies and Science

Lecture	Type	ECTS	Availability
Exercises in Polymerization Techniques	UE	1,60	WS
Physics of Soft Matter	VL	3,00	SS
Engineering with Soft Materials	KV	3,00	SS
Polymer Chemistry 2	VL	2,60	WS
Polymerization Techniques	VL	2,60	SS
Polyolefins	VL	1,30	WS
Organic Chemistry 1	VL	4,50	-
Introduction to Organic Chemistry	VL	3,00	WS
Polymeric Materials 2: Polymer additives	VL	2,50	SS
Design of Lightweight Structures	KV	3,00	WS
Mechanical Material Models for Polymers	KV	3,00	WS
Polymer Product and Process Development Project	PR	4,00	SS

Advanced Electives (MPT)

Sustainable Development and Global Change

Lecture	Type	ECTS	Availability
Circular Economy 1: Innovation, Design and Quality Perspectives	KS	3.00	SS
Circular Economy 2: Interdisciplinary Project	IK	4.00	-
Key Questions of Environmental Management	KS	4.00	WS
Global Studies: Interdisciplinary	VU	3.00	SS
Integrated Quality Management	KS	4.00	WS

Advanced Electives (MPT)

Soft Skills

Lecture	Type	ECTS	Availability
Special Topics of Philosophy	KS	3.00	SS/WS
Ethics and Gender Studies	VL	3.00	SS/WS
Gender Studies Managing Equality TN	KV	3.00	SS/WS

Sub-groups of advanced Electives (MPT)

Advanced Electives in Management and Polymer Technologies		29/10
Business Administration	Subject for the Master's Examination: Management & Marketing	
	Subject for the Master's Examination: Finance & Accounting	
Polymer Technologies and Science	Subject for the Master's Examination: Polymer Chemistry	
	Subject for the Master's Examination: Polymeric Materials and Testing	
	Subject for the Master's Examination: Polymer Processing	
	Subject for the Master's Examination: Polymer Product Engineering & Design	

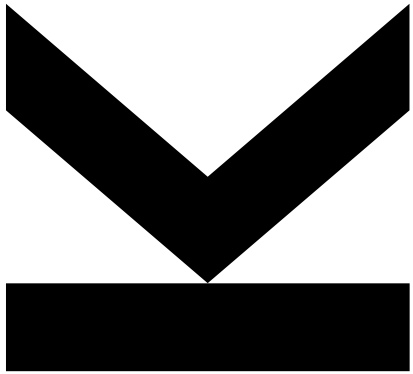
Agenda

- Bachelor graduation
- Main differences between PTS and MPT
- Elective Tracks MPT
- Elective Tracks PTS
- Elective Seminars
- Master Thesis
- Master's Examination

On request:

- Polymer Chemistry

Elective Tracks PTS



Sub-groups of the Elective Track (PTS)

Elective Subjects (at least two groups with 8 ECTS each)	ECTS
Chemistry and Chemical Technology	8
Physics of Materials and Materials Science	8
Process Technologies and Modelling	8
Process Automation and Control	8
Computational Engineering Sciences	8
Applied Mechanics and Mechanical Engineering	8
Management and Business Administration	8
Polymer Industry and Sustainable Development	8
Soft Skills	0-3

Sub-groups of the Elective Track (PTS)

Guidelines for distribution

- 30.2 ECTS needed
- At least 16 ECTS (8 ECTS for each needed) in two different sub-groups
- It is possible to gain more than 8 ECTS
- 14.2 ECTS have to be passed within all the other subjects in the Elective Track

Elective Track (PTS)

Chemistry and Chemical Technology

Lecture	Type	ECTS	Availability
Chemistry and Technology of Silicone Elastomers	VL	2.60	WS
High Resolution Microscopy II – Scanning Probe Techniques	VL	1.50	SS
High Resolution Microscopy I – Optical and Electron Microscopy Techniques	VL	1.50	SS
Advanced Polymer Synthesis Lab Course	PR	6.00	WS
Functional Polymers	VL	1.30	SS
Molecularly Imprinted Polymers	VL	1.30	WS
Polymer Chemistry 2	VL	2.60	WS
Polymerization Techniques	VL	2.60	SS
Polyolefins	VL	1.30	WS

Elective Track (PTS)

Chemistry and Chemical Technology

Lecture	Type	ECTS	Availability
Laboratory Course of Polymer Chemistry 2	PR	6.00	SS
Technical Biopolymers	VL	1.30	SS
Inorganic-Organic Hybrid Polymers	VL	1.30	WS
Exercises in Polymer Chemistry 2	UE	1.60	WS
Exercises in Polymerization Techniques	UE	1.60	WS
Organic Technology	VL	6.00	WS
Chemical Technology of Organic Materials II	VL	5.20	SS
Experimental methods in Rheology	KV	3.00	WS
Chemical Technology of Organic Materials III	VL	2.60	SS
Chemical Technology of Organic Materials IV	VL	2.60	SS

Elective Track (PTS)

Physics of Materials and Materials Science

Lecture	Type	ECTS	Availability
Structure and Properties of Biological Materials	VL	1.30	WS
Semiconductor and Solid State Physics	VL	4.50	WS
Scientific Tutorial in Polymeric Materials and Testing	SE	4.50	SS/WS
Seminar in Polymeric Materials and Testing	SE	3.00	SS/WS
Company Visits: Polymer Industry	UE	1.00	WS
Introduction to Nano-Biomechanics	VL	1.50	WS
Bionics - biomimetic Materials and Polymers	VL	1.30	SS
Introduction to Laser Processing	VL	3.00	SS
Physics of Soft Matter	VL	3.00	SS

Elective Track (PTS)

Physics of Materials and Materials Science

Lecture	Type	ECTS	Availability
Advanced Microscopy	VL	3.00	SS
Special topics in soft matter physics	VL	3.00	WS
Metal Physics	VL	3.00	SS
Physics of condensed matter	VL	3.00	WS
Seminar in applied physics	SE	3.00	WS
Physics of soft materials lab (experimental)	PR	9.00	SS
Polymeric Materials 2: Polymer additives	VL	2.50	SS

Elective Track (PTS)

Process Technologies and Modelling

Lecture	Type	ECTS	Availability
Optimization Methods in Polymer Processing	KV	3.00	WS
Polymer Injection Moulding 1: Machine Engineering	UE	1.50	WS
Scientific Tutorial in Polymer Extrusion and Compounding	SE	4.50	SS/WS
Scientific Tutorial in Polymer Injection Moulding	SE	4.50	SS/WS
Selected Topics in Polymer Processing	SE	2.00	WS
Seminar in Polymer Extrusion and Compounding	SE	3.00	WS
Seminar in Polymer Injection Moulding	SE	3.00	SS/WS
Company Visits: Polymer Industry	UE	1.00	WS

Elective Track (PTS)

Process Technologies and Modelling

Lecture	Type	ECTS	Availability
Packaging	VL	3.00	WS
Polymer Product and Process Development Project	PR	4.00	SS
Polymer Product and Process Development	VL	3.00	SS
Statistical methods	VL	3.00	WS
Selected Topics in Computational Methods in Mechanics	KV	3.00	WS
Transport Processes	VL	2.60	SS
Statistical methods	UE	1.50	WS

Elective Track (PTS)

Process Automation and Control

Lecture	Type	ECTS	Availability
Applied Measurement and Control in Polymer Processing	KV	1.50	SS
Polymer Product and Process Development	VL	3.00	SS
Automatic Control 1	UE	1.25	SS
Automatic Control 1	VL	3.00	SS
Sensors and Instrumentation 1	UE	1.25	WS
Sensors and Instrumentation 1	VL	3.00	WS
Sensors and Instrumentation 2	UE	1.25	SS
Sensors and Instrumentation 2	VL	3.00	SS
Design of Electric Drives and Actuators	KV	2.75	WS
Computer based Design of Control Systems	KV	4.50	WS
Pneumatics	KV	3.00	WS
Oil Hydraulics	KV	4.50	SS

Elective Track (PTS)

Computational Engineering Sciences

Lecture	Type	ECTS	Availability
Numerical methods in continuum mechanics 1	VL	3.00	SS
Software Engineering	VL	3.00	WS
Computer Vision	KV	4.50	WS
Computational Methods in Mechanics	VL	3.00	SS
Computational Methods in Mechanics	PR	3.00	SS
Selected Topics in Computational Methods in Mechanics	KV	3.00	WS
Advanced Computational Methods in Mechanics	UE	1.25	SS
Advanced Computational Methods in Mechanics	VL	3.00	SS
Numerical Analysis and Optimization	KV	5.75	WS
Numerical Methods in Fluid Mechanics	PR	4.50	SS
Numerical Methods in Fluid Mechanics	VL	3.00	SS
Thermofluidynamics	KV	3.00	WS
Mathematical models in engineering	VL	3.00	WS

Elective Track (PTS)

Applied Mechanics and Mechanical Engineering

Lecture	Type	ECTS	Availability
Mathematical methods in continuum mechanics	VL	6.00	WS
Design of Lightweight Structures	UE	2.40	WS
Engineering with Soft Materials	KV	3.00	SS
Experimental Solid Mechanics for Polymeric Components	PR	2.50	WS
Scientific Tutorial in Polymer Product Engineering	SE	4.50	SS
Seminar in Polymer Product Engineering	SE	3.00	SS/WS
Structural Health Monitoring	VL	3.00	WS
Company Visits: Polymer Industry	UE	1.00	SS
Computer Aided Design - CAD	VL	3.00	SS

Elective Track (PTS)

Applied Mechanics and Mechanical Engineering

Lecture	Type	ECTS	Availability
Experimental and Numerical Methods in Mechanics	PR	4.50	WS
Experimental and Numerical Methods in Mechanics	VL	3.00	SS
Servohydraulics	KV	3.00	SS
Thermofluidynamics	KV	3.00	WS
Computer-aided geometric design	VL	3.00	SS
Mathematical method in continuum mechanics	UE	3.00	WS
Selected Topics in Computational Methods in Mechanics	KV	3.00	WS

Elective Track (PTS)

Management and Business Administration

Lecture	Type	ECTS	Availability
Cross Cultural Management for Engineers	IK	3.00	SS
Environmental, Resource and Quality Management for Engineers	IK	3.00	SS
Finance, Accounting and Taxation	IK	3.00	SS/WS
Finance, Accounting and Taxation	VL	3.00	SS/WS
International Finance for Engineers	IK	3.00	WS
International Marketing for Engineers	IK	3.00	WS
Management and Marketing	IK	3.00	SS/WS
Management and Marketing	VL	3.00	SS/WS
Managerial Accounting for Engineers	IK	3.00	WS
Patent Law and Intellectual Property	VL	2.60	SS
Global Management and Strategy	SE	3.00	SS

Elective Track (PTS)

Polymer Industry and Sustainable Development

Lecture	Type	ECTS	Availability
Structure and Properties of Biological Materials	VL	1.30	WS
Photovoltaic	VL	3.00	SS
Scientific Tutorial in Polymeric Materials and Testing	SE	4.50	SS/WS
Seminar in Polymeric Materials and Testing	SE	3.00	SS/WS
Company Visits: Polymer Industry	UE	1.00	SS
Environmental, Resource and Quality Management for Engineers	IK	3.00	SS
Polymeric Materials 5: Polymeric Mat. & Sust. Developm.	KV	3.00	WS
Bionics - biomimetic Materials and Polymers	VL	1.30	SS
Technical Biopolymers	VL	1.30	SS
Global Management and Strategy	SE	3.00	SS

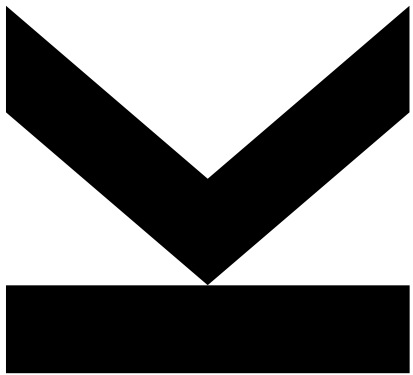
Agenda

- Bachelor graduation
- Main differences between PTS and MPT
- Elective Tracks MPT
- Elective Tracks PTS
- Elective Seminars
- Master Thesis
- Master's Examination

On request:

- Polymer Chemistry

Elective Seminars (MPT & PTS)



Which mandatory seminars must be completed?

Curriculum

- „Seminars in Polymer Technologies“ of at least 3 to max. 7.5 ECTS must be completed in the subject –
 - „Advanced Electives in Management and Polymer Technologies“ (MPT)
 - „Elective Track“ (PTS)

Source: Curricula MPT, PTS respectively

Seminar/Scientific Tutorial

Seminars with 3 ECTS	Scientific Tutorial with 4.5 ECTS
SE Seminar in Polymer Extrusion and Compounding	SE Scientific Tutorial in Polymer Extrusion and Compounding
SE Seminar in Polymer Injection Moulding	SE Scientific Tutorial in Polymer Injection Moulding
SE Seminar in Polymer Product Engineering	SE Scientific Tutorial in Polymer Product Engineering
SE Seminar in Polymer Materials and Testing	SE Scientific Tutorial in Polymeric Materials and Testing
<u>Should</u> be completed at the Master Thesis Institute	<u>Must</u> be completed at the Master Thesis Institute

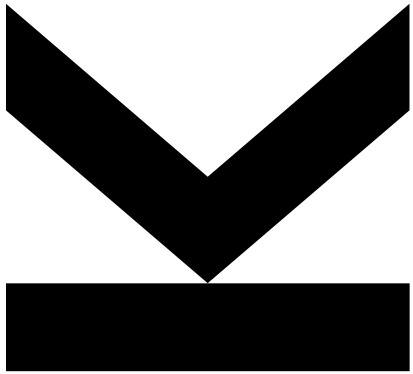
Agenda

- Bachelor graduation
- Main differences between PTS and MPT
- Elective Tracks MPT
- Elective Tracks PTS
- Elective Seminars
- Master Thesis
- Master's Examination

On request:

- Polymer Chemistry

Master Thesis



3 steps before your Master Thesis

Step 1 - Registration

- Print the form:

https://www.jku.at/fileadmin/gruppen/32/PAS/Abschlussarbeiten/Masterarbeit/Meldung_DA_MA_CD.pdf

- Submit it to the Department of Examination and Recognition Services
- The thesis should only take you 6 months afterwards

Step 2 - Write your thesis

- Use the new corporate design
- Ask at your institute for more guidelines
- Don't forget to include the Statutory Declaration

Step 3 - Submit your thesis

- Print versions
 - 2 hard-bound copies (no spiral binding)
 - Submit to the Department of Examination and Recognition Services
- Electronic version
 - Electronic version must be uploaded at the following address as a pdf file before submitting the print version: forms.jku.at/pas/thesis
 - You must enable Usage Rights in your PDF document
 - The document may not contain scanned images as a print version
 - Do not secure your document or set a password
 - The document must be saved in a ISO 19005-1 compatible formate (PDF/A)
- Attention
 - Electronic and print versions must be completely identical
 - Only one working day may pass between

Agenda

- Bachelor graduation
- Main differences between PTS and MPT
- Elective Tracks MPT
- Elective Tracks PTS
- Elective Seminars
- Master Thesis
- Master's Examination

On request:

- Polymer Chemistry

Master's Examination



3 Steps towards a successful Master's Examination

Step 1 - Requirements

- Completion of Subjects under §§ 4 & 5 in Curriculum (§ 4 MPT)
- Completion of Master Thesis, Master Thesis Seminar and Free Electives

- Print the raster:

<https://www.jku.at/en/studying/studies-from-a-z/degree-completion/completion-of-a-masters-degree-program/>

- Submit it to the Department of Examination and Recognition Services
- Submit the raster and the print versions of the thesis AT LEAST 4 weeks before the exam

Step 2 - Examination Committee

- Head of Committee/Examiner of the Master Thesis: Ideally a Professor from same Module¹
- Second Examiner: Professor from Master Thesis Institute/Department
- Third Examiner:: Additional Professor from different Module¹

1: See § 4 Mandatory Subjects in PTS Curriculum/§ 4 (5)+(6) in combination with § 8 (6)+(7) in MPT

Step 2 - Possible combinations (incomplete)

- Polymeric Materials and Testing
 - Prof. Lang, Prof. Wallner
- Polymer Processing
 - Prof. Steinbichler
- Polymer Product Engineering
 - Prof. Major, Prof. Schagerl
- Polymer Chemistry
 - Prof. Brüggemann
- Management & Marketing
 - Prof. Szabo
- Finance, Accounting and Taxation

PTS

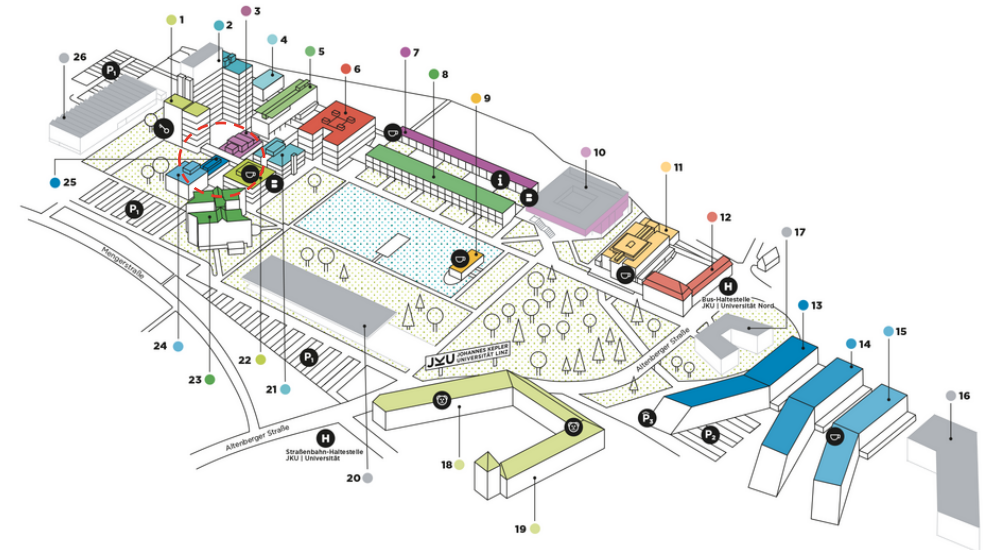
MPT

Step 3 - Bureaucracy

- Print:

https://www.jku.at/fileadmin/gruppen/32/PAS/Abschluesse/Masterabschluss/TN/Masterpruefung_engl_WS15_01.pdf

- Ask the appropriate Professors according to Step 2
- Submit the form AT LEAST 4 weeks before the exam
- Submit it at Department of Examination and Recognition Services



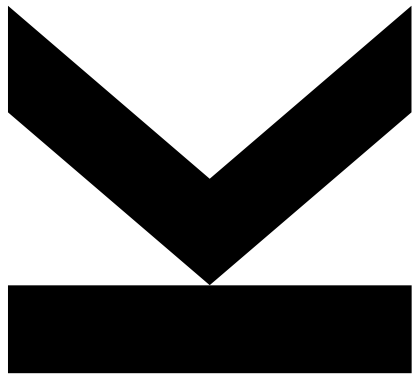
Agenda

- Bachelor graduation
- Main differences between PTS and MPT
- Elective Tracks MPT
- Elective Tracks PTS
- Elective Seminars
- Master Thesis
- Master's Examination

On request:

- Polymer Chemistry

Polymer Chemistry



Bridge subjects

- It is recommended to pass „Praktikum Chemie für Kunststofftechnik 2“ and „Organic Chemistry I“ during the Bachelor
- Contact persons for the Bridge Laboratory Course
 - Organic Chemistry: Beate Hager
 - Analytical Chemistry: Secretary
 - Inorganic Chemistry: Secretary
- Additionally to „Organic Chemistry 2“ you should take the course „Proseminar to Organic Chemistry II“

Any questions?

