M.Sc. Materials Chemistry and Mineralogy - Profile Chemistry

1st year (60 CP)

Winter semester

P1 Analytical Methods I (6 CP)	P2 Mineralogy (6 CP)	P3 Crystallography (6 CP)	P4 Chemistry (6 CP)	P5 Materials Science (6 CP)
Materials Analysis I (PÜ;5SWS/6CP)	Introduction to Mineralogy (V;2SWS/3CP)	Introduction to Crystallography (V+Ü;2SWS/3CP)	Surfaces and Interfaces (V;1SWS/1.5CP)	Introduction Materials Science (V;2SWS,3CP)
	Materials Resources (V+Ü;2SWS/3CP)	X-ray Diffraction & Rietveld Analysis (V+Ü;3SWS/3CP)	Solid State Chemistry (V+Ü;1SWS/1.5CP)	Phase Diagrams (V+Ü;2SWS,3CP)
			Solid State Physics (V;2SWS/3CP)	

Summer semester

P6 Analytical Methods II (6 CP)	W1C Solid State Synthesis and Characterization (6 CP)	W2C Structure Property Relationship (6 CP)	W3C Catalysis and Surface Chemistry (6 CP)	W4C Functional Surfaces (6 CP)
Materials Analysis II (PÜ;5SWS/6CP)	Solid State Reactions (V;1SWS/1.5CP)	Structure Property Relations (V;2SWS/3CP)	Heterogeneous Catalysis (V;2SWS/3CP)	Molecular Layers (V;2SWS/3CP)
	Solid State Synthesis and Cha-racterization (S+P;4SWS/4.5CP)	Structure Property Relations Seminar (S,2SWS/3CP)	Vacuum and Cryotechnics (V+Ü+P;2SWS/2.5CP)	Electron Induced Chemical Reactions (S;1SWS/2.5CP)
			Industry Excursion (E;1SWS/0.5CP)	Surface Modifications (S+P;1SWS/0.5CP)

W5C Introduction to Technical Chemistry (6CP)
Technical Reaction Processes (V+Ü+P;5SWS/6CP)

2nd year (60 CP)

Winter semester

P7 General Studies (6 CP)	W6C Research Module Chemistry I (12 CP)	W7C Research Module Chemistry II (12 CP)
General Studies Compulsory Course (V;2SWS/2CP)	Research Module Chemistry I (PÜ;10SWS/12CP)	Research Module Chemistry II (PÜ;10SWS/12CP)
Programming (V+Ü;2SWS/4CP)		

Summer semester

Master Thesis (30 CP)
Individuel research project with thesis and colloquium

Mandatory | Elective modules chemistry | One of these modules is compulsory for profile chemistry

M.Sc. Materials Chemistry and Mineralogy - Profile Mineralogy

1st year (60 CP)

Winter semester

P1 Analytical Methods I (6 CP)	P2 Mineralogy (6 CP)	P3 Crystallography (6 CP)	P4 Chemistry (6 CP)	P5 Materials Science (6 CP)
Materials Analysis I (PÜ;5SWS/6CP)	Introduction to Mineralogy (V;2SWS/3CP)	Introduction to Crystallography (V+Ü;2SWS/3CP)	Surfaces and Interfaces (V;1SWS/1.5CP)	Introduction Materials Science (V;2SWS,3CP)
	Materials Resources (V+Ü;2SWS/3CP)	X-ray Diffraction & Rietveld Analysis (V+Ü;3SWS/3CP)	Solid State Chemistry (V+Ü;1SWS/1.5CP)	Phase Diagrams (V+Ü;2SWS,3CP)
			Solid State Physics (V;2SWS/3CP)	

Summer semester

P6 Analytical Methods II (6 CP)	W1M Crystal Structure Analysis (6 CP)	W2M Physical Properties of Crystals (6 CP)	W3M Functional Ceramics (6 CP)	W4M Minerals and Materials (6 CP)
Materials Analysis II (PÜ;5SWS/6CP)	Crystal Struct. Analysis Crystal Chemistry (V+Ü;3SWS/4CP)	Introduction to Crystal Physics (V+Ü;2SWS/3CP)	Bioceramics (V+Ü;2SWS/3CP)	Minerals Surfaces and Reactions (V+Ü;2SWS/3CP)
	Single Crystal Diffraction (V+Ü;2SWS/2CP)	Crystal Optics (V+Ü,2SWS/3CP)	Modific. + Charact. of Material Surfaces for Biotechnol. Appl. (V+Ü;2SWS/3CP)	Thermodynamics in Mineral Sciences (V+Ü;3SWS/3CP)

2nd year (60 CP)

Winter semester

P7 General Studies (6 CP)	W5M Petrology and Isotope Geochemistry (6 CP)	W6M Technical Ceramics (6 CP)	W7M Special Topics in Materials Science (6 CP)	W8M Building Materials (6 CP)
General Studies Compulsory Course (V;2SWS/2CP)	Mineral Deposits and Isotope Geochemistry (V+Ü;3SWS/3CP)	Ceramic Nanotechnology (V;2SWS/3CP)	Nanoparticles and Nano-technology (V+Ü,2SWS,3CP)	Building Mater. Anal. & Character. (V+Ü;2SWS/3CP)
Programming (V+Ü;2SWS/4CP)	Phase Equilibria - Principles, Applications and Computations (V+Ü;2SWS/3CP)	Ceramics Lab (Ü;2SWS/3CP)	Zeolites, Catalysts, and Ion Exchangers (V+Ü,2SWS,3CP)	Binders and Ceramic Building Materials (V;1SWS/1.5CP)
				Corrosion of Materials (V;1SWS/1.5CP)

W9M Research Module Mineralogy (12 CP)
Research Module Mineralogy (PÜ;10SWS/12CP)

Summer semester

Master Thesis (30 CP)
Individuel research project with thesis and colloquium

Mandatory | Elective modules mineralogy | Compulsory module for profile mineralogy