Specialisation: Materials

Profile: Materials for Energy

Legend				
	Compulsory Courses Specialization	**Profile Courses**	**Electives**	**Electives non CSE**
	Deficiency Courses			

Year 1				
Compulsory Courses Specialization	**Quarter 1A**	**Quarter 1B**	**Quarter 2A**	**Quarter 2B**
	Advanced Colloids and Interfaces (5 EC; Wood)	**Statistical Thermo** (2,5 EC; de Beer)	**Advanced Ceramics** (5 EC; Pizzoccaro-Zilamy)	
	Characterization (5 EC; Huijser)			
	Practicum Functional Materials (5 EC; ten Elshof)			

Year 1				
Profile Courses	**Quarter 1A**	**Quarter 1B**	**Quarter 2A**	**Quarter 2B**
		Electrochemistry: fundamentals and techniques (5 EC; Altomare)	**Inorganic Materials Science** (5EC; Baeumer)	**Electrocatalysis: Materials and Spectroscopy** (5 EC; Katsoukis)
				Materials Science of Batteries (2,5 EC; Huijben, Kaghazchi, Elshof)

Year 1				
Electives scheduled	**Quarter 1A**	**Quarter 1B**	**Quarter 2A**	**Quarter 2B**
	Advanced Catalysis (5 EC; Lefferts/Mul)	**Organic Materials & Polymer Science** (5 EC; Wurm)	**Polymer Physics** (5 EC; De Beer)	**Polymer Synthesis** (5 EC; Wurm)
		Biomedical Materials Engineering (5 EC; Grijpma/Poot)	**Project Organic Materials** (5 EC; Hempenius)	**X-ray Characterisation for S&T** (5 EC; Makhotkin)
			Elastomer Science & Engineering (5 EC; Blume)	
			Sustainable Nanotechnology (5 EC; Susarrey Arce)	

Year 1				
2,5 EC Topics	**Quarter 1A**	**Quarter 1B**	**Quarter 2A**	**Quarter 2B**
	Systems Chemistry (Wong)	**Ion Transport in Fluids** (Wood e.a.)	**Chemical Process Analysis** (Susarrey Arce)	**Membrane Materials** (Lammertink/De Vos/Benes)
	Sustainable Organic Chemistry (Wurm)		**Electrochemical Engineering** (Banerjee)	**Membrane Processes** (Lammertink/De Vos/Benes)
			Advanced Reaction Kinetics (Faria)	**Molecular Modelling** (De Beer)
				Machine Learning in Chemistry (Franke)

Year 1				
Electives n.s.	**Quarter 1A**	**Quarter 1B**	**Quarter 2A**	**Quarter 2B**
	Theory of Phase Equilibria (5 EC; van der Hoef)			
	Polymers & Material Science Practice (3 EC; Hempenius)			
	Capita Selecta Research Group (5 EC)			
	Contract Research (5 EC)			

Year 1				
Deficiency	**Quarter 1A**	**Quarter 1B**	**Quarter 2A**	**Quarter 2B**
	Workshop Aca. Skills (0,5 EC)			
	Matlab for PM CSE* (2,5 EC)			
	Math for Engineers (0 EC; optional)			

* Matlab for PM CSE (202400599) replaces Matlab voor pre-masters ET (202001390)