Specialisation: Chemical Process Engineering

Profile: Electrification of Chemical Processes

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

Year 1				
	Quarter 1A	**Quarter 1B**	**Quarter 2A**	**Quarter 2B**
Compulsory Courses Specialization	**Advanced Chemical Reaction Engineering** (5 EC; Brilman/Kersten)		**Process Plant Design incl. Thermodynamics and Flowsheeting** (15 EC; van der Ham/van den Berg)	
	Advanced Catalysis (5 EC; Lefferts/Mul)	**Advanced Molecular Separations** (5 EC; de Vos/Schuur)		
			Process Dynamics & Control (2.5 EC; Zondervan)	

Year 1				
	Quarter 1A	**Quarter 1B**	**Quarter 2A**	**Quarter 2B**
Profile Courses	**Electrification of Chemical Process Ind. [ECPI]** (2,5 EC; Van der Ham)	**Electrochemistry: fundamentals and techniques** (5 EC; Altomare)	**Electrochemical Engineering** (2,5 EC; Banerjee)	**Electrocatalysis: Materials and Spectroscopy** (5 EC; Katsoukis)

Year 1				
	Quarter 1A	**Quarter 1B**	**Quarter 2A**	**Quarter 2B**
Electives scheduled	**Multi-component Mass Transport** (5 EC; Benes)		**Labcourse SPT** (2.5 EC; Kersten)	
	Advanced Colloids and Interfaces (5 EC; Wood)	**Cost Management & Engineering** (5 EC; Joosten)	**Process Equipment Design** (5 EC; Bramer)	**Numerical Methods for Engineers** (5 EC; Lammertink)
			Sustainable Nanotechnology (5 EC; Susarrey Arce)	

Year 1				
	Quarter 1A	**Quarter 1B**	**Quarter 2A**	**Quarter 2B**
2,5 EC Topics	**Entrepreneurial Toolbox for Engineers** (Fernandez)	**Ion Transport in Fluids** (Wood e.a.)	**Chem. Process Analysis** (Susarrey Arce)	**Process Optimization** (Zondervan)
		Design and simulation of chemical batch processes (Franke)	**Advanced Reaction Kinetics** (Faria)	**Membrane Processes** (Lammertink/De Vos/Benes)
				Membrane Materials (Lammertink/De Vos/Benes)
				Machine Learning in Chemistry (Franke)

Year 1				
	Quarter 1A	**Quarter 1B**	**Quarter 2A**	**Quarter 2B**
Electives n.s.	**Capita Selecta Research Group** (5 EC)			
	Contract Research (5 EC)			
	Sustainable Chemicals (2,5 EC; Ruiz Ramiro)			
	Sustainable Fuels (2,5 EC; Ruiz Ramiro)			
	Theory of Phase Equilibria (5 EC; van der Hoef)			

Year 1				
	Quarter 1A	**Quarter 1B**	**Quarter 2A**	**Quarter 2B**
Deficiency	**Workshop Aca. Skills** (0,5 EC)			
	Matlab for PM CSE* (2,5 EC)			
	Chemical Reaction Engineering (3,5 EC)			
	Math for Engineers (0 EC; optional)			

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