

Double bachelor programme Chemical Science and Engineering and Technische Natuurkunde 2026/2027

B1 (cohort 2026/2027)

Course code	Name	Coord.	Lang- uage	EC
	Semester 1 (Sem 1)			5,5
202600315	Programming and Dataprocessing	TN	NL	4,0
202400587	Introduction to Electronic Practicals	TN	NL	1,5
	Quartile 01 (1A)			19,5
202600370	Calculus 1	TN	NL	4,0
202100094	Dynamics and Relativity	TN	NL	4,5
202500477	Fundamentals of Chemistry	CSE	EN	8,5
202500478	Lab Course 1: Basic Skills & Synthesis	CSE	EN	2,5
	Quartile 02 (1B)			20
202001224	Calculus 2	TN	EN	4,0
202100105	Thermodynamics	CSE	EN	4,5
202600450	Engineering Systems	TN	EN	4,0
202500502	Process Engineering	CSE	EN	5,0
202500503	Lab Course 2: Energy & Process Engineering	CSE	EN	2,5
	Quartile 03 (2A)			19,5
202001232	Vector Calculus	TN	EN	2,0
202000682	Electromagnetics	TN	EN	5,0
202000683	Instrumentation	TN	NL	4,0
202000685	Project Electromagnetism and Measurements	TN	NL	3,0
202400758	Materials Science for DB CSE-TN	CSE	EN	4,5
202000684	Analytical Programming	TN	NL	1,0
	Quartile 04 (2B)			20,5
202001211	Linear Algebra	TN	EN	3,0
202600451	Quantum Matter	TN	NL	4,0
202400795	Equilibria	CSE	EN	5,0
202600452	Project: Engineering Physics	TN	EN	1,5
202400796	Think like a researcher (Electrochemistry)	CSE	EN	7,0
Total EC first academic year				85,0

* Subject to change

B2 (cohort 2025/2026)

Course code	Name	Coord.	Lang- uage	EC
Quartile 05 (1A)				20,0
202000691	Signals	TN	EN	4,0
202600003	Models	TN	EN	4,0
202600004	Project Signals, Models and Systems	TN	EN	3,0
202000734	Kinetics & Catalysis	CSE	EN	4,5
202300208	Industrial Chemistry & Processes	CSE	EN	4,0
202400612	Essential Skills I	CSE	EN	0,5
Quartile 06 (1B)				20,0
202200094	Quantum Mechanics 1	TN	EN	5,0
202200095	Hilbertruimte	TN	EN	3,0
202500504	Transport Phenomena	CSE	EN	7,5
202000739	Numerical Methods	CSE	EN	3,5
202500506	Practicum Transport Phenomena	CSE	EN	1,0
Quartile 07 (2A)				20,0
202000701	Introduction Solid State Physics	TN	EN	7,0
202600250	Statistical Physics	TN	EN	5,0
202600372	Organic & Bio-organic Chemistry	CSE	EN	6,0
202600373	Lab Course Org. & Bio-organic Chemistry	CSE	EN	2,0
Quartile 08 (2B)				20,0
202000706	Electrodynamics	CSE	EN	5,0
1 of 2 modules below				15,0
CSE M8a	Process Design			
202000745	Intr. Chemical Reaction Engineering	CSE	EN	4,0
202500560	Intr. Separation Methods	CSE	EN	4,0
202500561	Project Process Design	CSE	EN	7,0
CSE M8b	Materials Science & Technology			
202000749	Chem. & Technol. of Inorganic Materials	CSE	EN	4,0
202500562	Chem. & Technol. of Organic Materials	CSE	EN	4,0
202500563	Advanced Materials Science & Project	CSE	EN	7,0
Total EC second academic year				80,0

B3 (cohort 2024/2025)

Course code	Name	Coord.	Lang- uage	EC
	Quartile 09 (1A)			19
	Minor Quartile 09			15
	1 of 2 courses below			4
202000694	Classical Mechanics	TN	EN	4
202000695	Engineering Solid Mechanics	TN	EN	4
	Quartile 10 (1B)			19,5
	Minor Quartile 10	TN	EN	15
202000697	Optics Theory	TN	EN	4,5
	Quartile 11 (2A)			18,0
202000755	Preparation Bachelor's assignment	TN	NL	2,0
202500446	Ethics	CSE	EN	5,0
202500445	Statistics	CSE	NL	2,0
202400723	Essential Skills II	CSE	EN	1,0
202300163	Interface Science	CSE	EN	3,0
	Electives 5 EC ¹			5,0
193400111	Bionanotechnology	NT	EN	5,0
202500465	Biochemistry	CSE	EN	5,0
201300155	Process Equipment Design	CSE	EN	5,0
202100223	Computational Physics	AP	EN	2,5/5,0
202600002	Remote Control of Experiments	AP	EN	5,0
202000710	Material Science	TN	EN	5,0
202600001	Machine Learning	AP	EN	5,0
202001413	Soft Matter Physics	AP	EB	5,0
202000711	Technical Optics	TN	EN	5,0
	Quartile 12 (2B)			15,0
202600***	Bachelor's Assignment CSE-TN	TN	EN	15,0
	General Aspects (40%)			7,5
	Scientific Aspects (60%)			7,5
Total EC third academic year				71,5

¹ In the event of bottlenecks in the study planning **and** in consultation with the AP study advisers, a choice can be made from the following replacement electives.

193530010	Nanophysics	Zandvliet	1A/Q1	5,0
202200044	Fundamentals of Photonics	Saive	1A/Q1	5,0
193570010	Advanced Fluid Mechanics	Huisman	1A/Q1	5,0
202100078	Quantum Information	Pinkse	1A/Q1	5,0
202200295	Laser Physics and Nonlinear Optics	Slot	1B/Q2	5,0
193570050	Advanced Quantum Mechanics	Filippi	1B/Q2	5,0
193565000	Capillarity Phenomena	Snoeijer	1B/Q2	5,0
202400605	Cooling Science and Technology	Vanapalli	2B/Q4	5,0
201800131	Numerical Methods for Engineers	Lammertir	2B/Q4	5,0
193500000	Biomedical Optics	Ghanbarz	2B/Q4	5,0