

### Curriculum bachelor Technische Natuurkunde for students generation 2023

#### First academic year (B1 2023)

Course code	Dutch name	English name <sup>1</sup>	EC
	<b>TN SEM01 Semester 1</b>	<b>Semester 1</b>	<b>7.0</b>
202300095	Experimenteren	Lab course	4.0
202300096	Programmeren en dataverwerking	Programming and Dataprocessing	3.0
	<b>TN MOD01 Dynamica en Relativiteit</b>	<b>Dynamics and Relativity</b>	<b>11.0</b>
202100094	<i>Dynamica en Relativiteit</i>	<i>Dynamics and Relativity</i>	4.5
202001215	<i>Calculus 1</i>	<i>Calculus 1</i>	4.0
202000675	<i>Project Dynamica en Relativiteit</i>	<i>Project Dynamics and Relativity</i>	2.5
	<b>TN MOD02 Thermodynamica</b>	<b>Thermodynamics</b>	<b>12.0</b>
202000677	<i>Thermodynamica</i>	<i>Thermodynamics</i>	4.0
202001224	<i>Calculus 2</i>	<i>Calculus 2</i>	4.0
202000680	<i>Project Thermodynamica</i>	<i>Project Thermodynamics</i>	4.0
	<b>TN MOD03 Elektromagnetisme en Meten</b>	<b>Electromagnetism and Measurements</b>	<b>15.0</b>
202000682	<i>Elektriciteit en Magnetisme</i>	<i>Electromagnetics</i>	5.0
202001232	<i>Vector Calculus</i>	<i>Vector Calculus</i>	2.0
202000683	<i>Instrumentatie</i>	<i>Instrumentation</i>	4.0
202000684	<i>Analytisch Programmeren</i>	<i>Analytical Programming</i>	1.0
202000685	<i>Project Elektromagnetisme en Meten</i>	<i>Project Electromagnetism and Measurements</i>	3.0
	<b>TN MOD04 Quantum en Geometrische Optica</b>	<b>Quantum and Geometrical Optics</b>	<b>15.0</b>
202000687	<i>Quantum Materie</i>	<i>Quantum Matter</i>	5.0
202001211	<i>Lineaire Algebra</i>	<i>Linear Algebra</i>	3.0
202000688	<i>Geometrische Optica</i>	<i>Geometrical Optics</i>	2.5
202000689	<i>Engineering Systems</i>	<i>Engineering Systems</i>	4.5
Total first academic year			60

<sup>1</sup> As printed on the transcript of records

### Second academic year (B2 2022)

Course code	Dutch name	English name	EC
	<b>TN MOD05 Signalen. Modellen en Systemen</b>	<b>Signals. Models and Systems</b>	<b>15.0</b>
202000691	<i>Signalen</i>	<i>Signals</i>	4.0
202000692	<i>Modellen</i>	<i>Models</i>	4.0
202000693	<i>Project Signalen. Modellen en Systemen</i>	<i>Project Signals. Models and Systems</i>	3.0
	<b>Keuze 1 van 2:</b>	<b>Elective 1 of 2</b>	
202000694	<i>Klassieke Mechanica</i>	<i>Classical Mechanics</i>	4.0
202000695	<i>Engineering Solid Mechanics</i>	<i>Engineering Solid Mechanics</i>	4.0
	<b>TN MOD06 Golven. Interferentie en Waarschijnlijkheid</b>	<b>Waves. Interference and Probability</b>	<b>15.0</b>
202001485	<i>Optica Theorie</i>	<i>Optics Theory</i>	4.5
202300063	<i>Optica Practica</i>	<i>Optics Practicals</i>	2.5
202200094	<i>Quantummechanica 1</i>	<i>Quantum Mechanics</i>	5.0
202200095	<i>Hilbertruimte</i>	<i>Hilbert Space</i>	3.0
	<b>TN MOD07 Fysica van Gecondenseerde Materie</b>	<b>Condensed Matter Physics</b>	<b>15.0</b>
202000701	<i>Inleiding Vastestoffysica</i>	<i>Introduction Solid State Physics</i>	7.0
202000702	<i>Statistische Fysica</i>	<i>Statistical Physics</i>	6.0
202000703	<i>Partiële Differentiaalvergelijkingen</i>	<i>Partial Differential Equations</i>	2.0
<b>202000704</b>	<b>TN MOD08 Continuüm Dynamica</b>	<b>Continuum Dynamics</b>	<b>15.0</b>
202300023	<i>Vloeistoffysica Theorie</i>	<i>Fluid Physics Theory</i>	4.5
202300024	<i>Vloeistoffysica Practica</i>	<i>Fluid Physics Practicals</i>	2.5
202000706	<i>Elektrodynamica</i>	<i>Electrodynamics</i>	6.0
202000707	<i>Numerieke Methoden voor PDV</i>	<i>Numerical Methods for PDE</i>	2.0
Total second academic year			60

### Third academic year (B3 2024)

Course code	Dutch name	English name	EC
-	<b>Minor/profilering</b>		<b>30.0</b>
	<b>TN MOD11 Oriëntatie Module</b>	<b>Orientation</b>	<b>15.0</b>
202300067	<i>Vorbereiding Bacheloropdracht</i>	<i>Preperation Bachelor's Assignment</i>	3.0
202300068	<i>Statistiek in Fysisch Onderzoek</i>	<i>Statistics in Physics Research</i>	2.0
	<b>Keuzevakken 10EC:</b>	<b>Elective courses 10 EC</b>	
202000710	<i>Fysische Materiaalkunde</i>	<i>Materials Science</i>	5.0
202000711	<i>Technische Optica</i>	<i>Technical Optics</i>	5.0
202100223	<i>Computational Physics</i>	<i>Computational Physics</i>	2.5/5.0
202100225	<i>Remote Control of Experiments</i>	<i>Remote Control of Experiments</i>	2.5/5.0
202100224	<i>Machine Learning</i>	<i>Machine Learning</i>	3.0/5.0
202001413	<i>Soft Matter Physics</i>	<i>Soft Matter Physics</i>	5.0
202000715	<b>TN MOD12 Bacheloropdracht</b>	<b>Bachelor's Assignment</b>	<b>15.0</b>
	<i>Algemene Aspecten (50%)</i>	<i>General Aspects (50%)</i>	7.5
	<i>Fysische Aspecten (50%)</i>	<i>Physics Aspects (50%)</i>	7.5
Total third academic year			60