

## BSc & MSc Nanobiology - TU Delft Courses for Exchange Students

An exchange in Nanobiology allows you of the freedom to design a personalized course package, however this may mean there is overlap especially if your plan includes courses from different years within the programme, or with electives from other programmes.

The Nanobiology courses take place either at TU Delft or the Erasmus MC (about a 30 minute train ride, or hour bike ride apart), this is also something to take into consideration when making your course plans. We highly recommend that you discuss your course choices with the programme coordinator or academic counsellor they can help make your plan more successful. .

Please read the courses' pre-requisites [here](#) in order to determine whether the courses you select are a good fit for your educational background.

MSc Nanobiology Elective courses 2024-2025 (compose a package of 30 EC)						
Course code	Course Name	Credits (EC)	Period			
			Q1	Q2	Q3	Q4
<b>Core Nanobiology Courses</b>						
<a href="#">NB4011</a>	Analytical Mechanics	3				
<a href="#">NB4012</a>	Stochastic Processes With Applications	3				
<a href="#">NB4020</a>	High-Resolution Imaging	4				
<a href="#">NB4030</a>	Engineering Genetic Information	3				
<a href="#">NB4040</a>	Biology Of Cancer	4				
<a href="#">NB4050</a>	Modelling Dynamical Systems	3				
<a href="#">NB4070</a>	Soft Matter	6				
<a href="#">AP3163</a>	Physics Of Biological Systems: Mathematical Modelling In Systems Biology	6				
<a href="#">NB4065</a>	Academic Research Project*	18				
<b>Nanobiology Electives</b>						
<a href="#">NB4080</a>	Protein Quality Control Mechanisms	3				
<a href="#">NB4090</a>	Stem Cells	3				
<a href="#">NB4100</a>	Nuclear Architecture	3				
<a href="#">NB4110</a>	Geometry Of Physics	6				
<a href="#">NB4160</a>	Engineering Of Living Systems	3				
<a href="#">NB4166</a>	Molecular Virology and Immunology	3				
<b>Nanobiology Electives From Other Programmes</b>						
<a href="#">AP3021</a>	Advanced Statistical Mechanics	6				
<a href="#">AP3122</a>	Advanced Optical Imaging	6				
<a href="#">AP3232</a>	Medical Imaging Signals And Systems	6				
<a href="#">AP3371</a>	Radiological Health Physics	6				
<a href="#">AP3751</a>	Artificial Intelligence for Physics	4				
<a href="#">AP3582</a>	Medical Physics Of Photon And Proton Therapy	6				
<a href="#">AP3832</a>	Systems Engineering for Physicists	5				
<a href="#">CH3153</a>	Molecular Transport Phenomena	4				
<a href="#">CS4195</a>	Modelling and Data Analysis in Complex Networks	5				
<a href="#">EE4740</a>	Data Compression: Entropy and Sparsity Perspectives	5				
<a href="#">LM3432</a>	Analysis Of Metabolic Networks	6				
<a href="#">LM3561</a>	Ethical, Legal And Social Issues In Biotechnology	3				
<a href="#">LM3581NB</a>	Metabolic Systems Biology	3				
<a href="#">LM3601</a>	Molecular Biotechnology And Genomics	6				
<a href="#">LM3611</a>	Microbial Community Engineering	6				
<a href="#">LM3701</a>	Advanced Enzymology	6				

<a href="#">ME46072</a>	Nonlinear Dynamics	4				
<a href="#">ME46125</a>	Micro and Nanofabrication for Cell Biology and Tissue Engineering	4				
<a href="#">SEN124A</a>	Design for Networked Systems	5				
<a href="#">TW3730TU</a>	Numerical Methods for Differential Equations	6				
<a href="#">WI4011-17</a>	Computational Fluid Dynamics	6				
<a href="#">WI4014TU</a>	Numerical Analysis	6				
<a href="#">WI4019</a>	Non-Linear Differential Equations	6				
<a href="#">WI4201</a>	Scientific Computing	6				
<a href="#">WI4204</a>	Advanced Modeling	6				
<a href="#">WI4205</a>	Applied Finite Elements	6				
<a href="#">WI4212</a>	Advanced Numerical Methods	6				
<a href="#">WI4260TU</a>	Scientific Programming for Engineers	3				
<a href="#">WI4430</a>	Martingales, Brownian Motion	6				
<a href="#">WI4660</a>	Dynamical Systems and Chaos	6				
<a href="#">WM0201TU-Eng</a>	Technical Writing (Taught 4 Times Per Year)	2				
<a href="#">WM0320TU</a>	Ethics And Engineering	3				
<a href="#">WM-ITAV-4010</a>	Scientific Writing (Taught 2 Times Per Year)	2				

\* NB4065 is an independent research project in a lab at TU Delft or Erasmus. You will be responsible for finding an appropriate supervisor, we will help you. There is no fixed time for this course.

BSc Nanobiology courses Fall Semester 2024 (compose a package of 30 EC)						
Identifier	Course name	Credits	Quarters			
			1a	1b	2a	2b
<a href="#">NB1012</a>	Biochemistry	3 EC				
<a href="#">NB1022</a>	Genetics	4 EC				
<a href="#">NB1031</a>	Introduction to Studying Nanobiology	3 EC				
<a href="#">NB1102</a>	Chemistry 1	3 EC				
<a href="#">NB1110</a>	Chemistry 2	3 EC				
<a href="#">NB1140</a>	Physics 1a	4 EC				
<a href="#">NB1201</a>	Analysis 1	5 EC				
<a href="#">NB1206</a>	Analysis 2	5 EC				
<a href="#">NB2011</a>	Thermodynamics and Transport	3 EC				
<a href="#">NB2022</a>	Philosophy and Ethics	3 EC				
<a href="#">NB2071</a>	Physical Biology of the Cell 2	3 EC				
<a href="#">NB2141</a>	Physics 2	3 EC				
<a href="#">NB2214</a>	Electronic Instrumentation	6 EC				
<a href="#">NB2230</a>	Biomolecular Structures and Functions	3 EC				
<a href="#">TN2545</a>	Signals and Systems	6 EC				
NB-Mi-237	Minor: Collaborative Science for Biomedical Breakthroughs*	30 EC				

\*This must be registered for during the minor registration period in Spring 2025 or discussed with the programme coordinator in advance.

BSc Nanobiology courses Spring Semester 2025 (compose a package of 30 EC)						
Identifier	Course name	Credits	Quarters			
			3a	3b	4a	4b
<a href="#">NB1016</a>	Molecular Biology	3 EC				
<a href="#">NB1035</a>	Programming Foundations	3 EC				
<a href="#">NB1052</a>	Journal Club 1	3 EC				
<a href="#">NB1163</a>	Lab Course Track B-1*	3 EC				
<a href="#">NB1120</a>	Biomolecular Programming	3 EC				
<a href="#">NB1132</a>	Biophysics	3 EC				
<a href="#">NB1143</a>	Physics 1b	3 EC				

<a href="#">NB1211</a>	Analysis 3	3 EC				
<a href="#">NB1230</a>	Linear Algebra	3 EC				
<a href="#">NB2032</a>	Evolutionary & Developmental biology	6 EC				
<a href="#">NB2081</a>	Nanotechnology	2 EC				
<a href="#">NB2161</a>	Bioinformatics	4,5 EC				
<a href="#">NB2181</a>	Computational science	3 EC				
<a href="#">NB2220</a>	Statistical Physics	3 EC				
<a href="#">NB2330</a>	Imaging 1	5 EC				
<a href="#">NB2240</a>	Imaging 2	3.5 EC				
<a href="#">NB3014</a>	Computational Neuroscience	2,5 EC				
<a href="#">NB3015</a>	A Primer in Neuroscience	2,5 EC				
<a href="#">NB3016</a>	High Speed Scientific Computing	2,5				
<a href="#">NB3017</a>	Quantum mechanics in Nanobiology-1	2,5 EC				
<a href="#">NB3018</a>	Quantum mechanics in Nanobiology-2	2,5 EC				
<a href="#">NB3020</a>	Genomics Technology in Breast Cancer Research	2,5 EC				
<a href="#">NB3021</a>	Optics and its Application in Nanobiology	2,5 EC				
<a href="#">NB3022</a>	Epigenetics	2,5 EC				
<a href="#">NB3023</a>	Complex Human Genetics	2,5 EC				
<a href="#">NB3024</a>	Advanced Math Topics	2,5 EC				

For more information about the study programmes see:

[BSc Nanobiology](#)

[MSc Nanobiology](#)

*Last update August 2024*