

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 2023-2024 (compose a package of 30 EC)						
Course code	Course Name	Credits (ECTS)	Period			
			Q1	Q2	Q3	Q4
Core Nanobiology Courses						
NB4011	Analytical Mechanics	3				
NB4012	Stochastic Processes With Applications	3				
NB4020	High-Resolution Imaging	4				
NB4030	Engineering Genetic Information	3				
NB4040	Biology Of Cancer	4				
NB4050	Modeling Dynamical Systems	3				
NB4070	Soft Matter	6				
NB4510	Project Development Part 1	3				
NB4520	Project Development Part 2*must take part 1 first	7				
AP3162	Physics Of Biological Systems: Mathematical Modeling In Systems Biology	6				
Nanobiology Electives						
NB4080	Protein Quality Control Mechanisms	3				
NB4090	Stem Cells	3				
NB4100	Nuclear Architecture	3				
NB4110	Geometry Of Physics	6				
NB4120	Biological Networks; A Data Driven Approach To Discovery And Understanding	3				
NB4160	Engineering Of Living Systems	3				
Nanobiology Electives From Other Programmes						
AP3021	Advanced Statistical Mechanics	6				
AP3032	Continuum Physics	6				
AP3122	Advanced Optical Imaging	6				
AP3132	Advanced Digital Image Processing	6				
AP3232	Medical Imaging Signals And Systems	6				
AP3371	Radiological Health Physics	6				
AP3582	Medical Physics Of Photon And Proton Therapy	6				
AP3831	Systems Engineering	3				
BM41035	Biomaterials	4				
BM41050	Applied Experimental Methods: Medical Instruments	4				
BM41075	Regenerative Medicine	4				
BM41090	Computational Mechanics Of Tissues And Cells	6				
BM41155	3D Printing	4				
CH3142	Molecular Thermodynamics	6				

NB2011	Thermodynamics and Transport	3 ECTS									
NB2022	Philosophy and Ethics	3ECTS									
NB1022	Evolutionary and Developmental Biology	6 ECTS									
NB2071	Physical Biology of the Cell 2	3 ECTS									
NB2141	Physics 2	3 ECTS									
NB2214	Electronic Instrumentation	6 ECTS									
NB2230	Biomolecular Structures and Functions	3 ECTS									
TN2545	Signals and Systems	6 ECTS									

BSc Nanobiology courses Spring semester 2024 (compose a package of 30 EC)											
Identifier	Course name	Credits	Quarters								
			1a	1b	2a	2b	3a	3b	4a	4b	
NB1016	Molecular Biology	3 ECTS									
NB1052	Journal Club 1	3 ECTS									
NB1072	Physical Biology of the Cell 1	3 ECTS									
NB1163	Lab Course Track B-1*	3 ECTS									
NB1120	Biomolecular Programming	3 ECTS									
NB1132	Biophysics	3 ECTS									
NB1143	Physics 1b	3 ECTS									
NB1211	Analysis 3	3 ECTS									
NB1230	Linear Algebra	3 ECTS									
NB2032	Evolutionary & Developmental biology	6									
NB2041	Optics and Microscopy	3 ECTS									
NB2046	Microscopy/Nanoscopy Practical*	1.5 ECTS									
NB2081	Nanotechnology*	2									
NB2121	Image Analysis	3 ECTS									
NB2151	Journal Club 2	1									
NB2161	Bioinformatics	4,5 ECTS									
NB2181	Computational science	3 ECTS									
NB2220	Statistical Physics	3 ECTS									
NB3011	Nanomedicine*	2,5 ECTS									
NB3014	A primer in Neural Networks	2,5 ECTS									
NB3015	Systems Neurobiology	2,5 ECTS									
NB3017	Quantum mechanics in Nanobiology-1	2,5 ECTS									
NB3018	Quantum mechanics in Nanobiology-2	2,5 ECTS									
NB3019	Molecular Motors	2,5 ECTS									
NB3020	Genomics Technology in Breast Cancer Research*	2,5 ECTS	-	-	-	-					
NB3021	Optics and its Application in Nanobiology	2,5 ECTS									
NB3022	Epigenetics	2,5 ECTS									
NB3023	Complex Human Genetics	2,5 ECTS									
NB3024	Advanced Math Topics	2,5 ECTS									

*Limited enrolment courses, please enquire with the programme coordinator about space. NB3011 Nanomedicine is offered 3 times, NB 3020 Genomics Technology in Breast Cancer Research is offered twice.

Please note it is **not** possible to do a research project in the BSc and MSc Nanobiology programme due to limited capacity in the research departments.

Please also note that all links are to the courses offered in 2022-2023. The course offerings, study guides and time schedules may be subject to changes for the academic year 2023-2024.

For more information about the study programmes see:

[BSc Nanobiology](#)

[MSc Nanobiology](#)

Last update January 2023