

# **Implementation Regulation for the BSc Programme Nanobiology**

Part of the Course and Exam Regulation of the Bachelor Programme  
As referred to in Section 2 of the Course and Exam Regulation.

**Erasmus Medical Centre Rotterdam**  
and  
**Technical University Delft**

**2014-2015**

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## **Paragraph 1 General**

### **Article 1. Division of the academic year**

The academic year of the programme is divided in two semesters. Each semester consist of 2 periods (quarters). Each period consist of two octals.

### **Article 2. Admission to the programme**

The requirements for admission to the BSc programme Nanobiology are described in Section 1, Article 5 of the Course and Examination Regulation Nanobiology (OER 2014-2015)

### **Article 3. Final attainments**

Final attainments of the BSc programme are describe in Section 1, Article 4 of the Course and Examination Regulation Nanobiology (OER 2014-2015)

### **Article 4. Minor**

The BSc programme Nanobiology is a three year BSc programme of 180EC. The first year (propaedeutic phase) is 60EC, the second and third year (post propaedeutic phase) consist of 120EC.

The programme has a major/minor structure. The major is the main component of the BSc (Propaedeutic phase + 90 EC in post-propaedeutic phase). The minor phase is 30EC, the Nanobiology minor is a deepening minor. Admission to this minor is for Nanobiology students only. Students are only admitted when they have finalized the Propaedeutic phase + 30EC from the second year BSc Nanobiology at the start of the minor period in September.

Minors other than the deepening minor Nanobiology may also be followed at the Erasmus University, TUDelft or other Universities. Approval for these minors should be obtained from the Board of Examiners Nanobiology.

## Paragraph 2 PROPEDEUTIC PHASE

### Article 5a. COMPOSITION OF THE STUDY PROGRAMME OF THE PROPEDEUTIC PHASE; 2014-2015

Propaedeutic exam Academic year 2014-2015								
Course	Code	EC	Attainments (see Art 1.4 OER)					
			1	2	3	4	5	6
Analysis 1	WI1411NB	5	X					
Analysis 2	WI1422NB	5	X					
Analysis 3	WI1413NB	3	X					
Linear Algebra (WI1142TN)	WI1142NB	3	X					
Physics 1a	NB1142	3	X	X				
Physics 1b	NB1143	3	X	X				
Chemistry (NB1101-D1)	NB1102	3	X	X				
Chemistry (NB1101-D2)	NB1110	3	X	X				
Biomolecular Dynamics (Biochemistry and Molecular Biology)	NB1012	3	X	X				
Biomolecular Dynamics (Biochemistry and Molecular Biology)	NB1016	3	X	X				
Biomolecular Programming	NB1120	3	X	X		X		
Genetics	NB1022	4	X	X	X		X	
Physical Biology of the Cell (Cell Biology)	NB1071	3	X	X				X
Introduction to Studying Nanobiology	NB1031	3	X				X	X
Lab Course 'Nanobiology' (NB1061-D2)	NB1062	3	X			X	X	
Lab Course 'Nanobiology' (NB1061-D1)	NB1066	3	X			X	X	
Biophysics	NB1131	3	X	X		X		
Faculty Seminar	NB1042	1		X	X		X	X
Journal Club	NB1052	3	X	X	X		X	X

Specific grade provisions: The weight average of the final grades for Analysis 1, 2 and 3 must be 5,8 or higher to pass these courses. The weight average can only be determined when grades for the individual final grades of Analysis 1, 2 and 3 is 5 or higher

**Article 5b. COMPOSITION OF THE STUDY PROGRAMME OF THE PROPEDEUTIC PHASE; 2013-2014**

Propaedeutic exam Academic year 2013-2014								
Course	Code	EC	Attainments (see Art 1.4 OER)					
			1	2	3	4	5	6
Analysis 1	WI1411NB	5	X					
Analysis 2	WI1422NB	5	X					
Analysis 3	WI1413NB	3	X					
Linear Algebra (WI1142TN)	WI1142NB12	3	X					
Physics 1a	NB1142	3	X	X				
Physics 1b	NB1143	3	X	X				
Chemistry (NB1101-D1)	NB1102	3	X	X				
Chemistry (NB1101-D2)	NB1110	3	X	X				
Biomolecular Dynamics (Biochemistry and Molecular Biology)	NB1012	3	X	X				
Biomolecular Dynamics (Biochemistry and Molecular Biology)	NB1016	3	X	X				
Biomolecular Programming	NB1120	3	X	X		X		
Genetics	NB1022	4	X	X	X		X	
Physical Biology of the Cell (Cell Biology)	NB1071	3	X	X				X
Introduction to Nanobiology	NB1031	3	X				X	X
Lab Course 'Nanobiology' (NB1061-D2)	NB1062	3	X			X	X	
Lab Course 'Nanobiology' (NB1061-D1)	NB1066	3	X			X	X	
Biophysics	NB1131	3	X	X		X		
Faculty Seminar	NB1042	1		X	X		X	X
Journal Club	NB1052	3	X	X	X		X	X

Specific grade provisions: The weight average of the final grades for Analysis 1, 2 and 3 must be 5,8 or higher to pass these courses. The weight average can only be determined when grades for the individual final grades of Analysis 1, 2 and 3 is 5 or higher.

**Article 5c. COMPOSITION OF THE STUDY PROGRAMME OF THE PROPEDEUTIC PHASE; 2012-2013**

Propaedeutic exam Academic year 2012-2013								
Course	Code	EC	Attainments (see Art 1.4 OER)					
			1	2	3	4	5	6
Analysis 1	WI1411NB	5	X					
Analysis 2	WI1412NB	4	X					
Analysis 3	WI1413NB	3	X					
Linear Algebra	WI1142TN	3	X					
Fourier Analysis	WI1414NB	1	X					
Physics 1	NB1141	6	X	X			X	
Chemistry	NB1101-D1	3	X	X				
Chemistry	NB1101-D2	3	X	X				
Biomolecular Dynamics (Biochemistry and Molecular Biology)	NB1011-D1	3	X	X			X	
Biomolecular Dynamics (Biochemistry and Molecular Biology)	NB1011-D2	3	X	X			X	
Biomolecular Dynamics (Biochemistry and Molecular Biology)	NB1011-D3	3	X	X			X	
Genetics	NB1021	4	X	X	X			X
Physical Biology of the Cell (Cell Biology)	NB1071	3	X	X				X
Introduction to Nanobiology	NB1031	3	X				X	X
Lab Course 'Nanobiology'	NB1061-D1	3	X				X	X
Lab Course 'Nanobiology'	NB1061-D2	3	X				X	X
Biophysics	NB1131	3	X	X			X	
Faculty Seminar	NB1041	2		X	X		X	X
Journal Club	NB1051	2	X	X	X		X	X

Specific grade provisions: The weight average of the final grades for Analysis 1, 2 and 3 must be 5,8 or higher to pass these courses. The weight average can only be determined when grades for the individual final grades of Analysis 1, 2 and 3 is 5 or higher.

### Paragraph 3: Second and Third Year

#### Article 6a. COMPOSITION OF THE STUDY PROGRAMME OF THE SECOND YEAR; 2014-2015.

Second year Nanobiology; Academic year 2014-2015								
Course	Code	EC	Attainments (see Art 1.4 OER)					
			1	2	3	4	5	6
Differential equations	NB2061	3	X					
Instrumentation / LabView	NB2211	6	X			X		
Physical Biology of the Cell	NB2071	3	X	X				X
Physics 2	NB2141	3	X	X				
Signals and Systems	TN2545	6	X					
Philosophy and Ethics	NB2022	3	X		X		X	X
Journal Club	NB2151	1	X	X	X		X	X
Evolutionary Developmental Biology Part 1&2	NB2031	6	X	X		X		X
Thermodynamics and Transport	NB2011	3	X					
Optics & Microscopy	NB2041	3	X	X		X		X
Evolution	NB2111	3	X	X				X
Statistics	WI3104TN	3	X					
Statistical Physics	TN2624NB	3	X					
Computation / Matlab	TN2513	3	X			X		
Image Analysis	NB2121	3	X	X				
Bioinformatics	NB2161	4.5	X	X				X
Nanotechnology	NB2081	2		X	X		X	X
Microscopy / Nanoscopy practice	NB2046	1.5	X			X		

#### Changes and Transitional arrangements

NB2022: Philosophy and Ethics is a merger of NB2021 and NB2051 from the academic year 2013-2014. Students that missed one of these two (NB2021-NB2051) will have two retake possibilities in the academic year 2014-2015. Students that need to retake both can follow the course NB2022.

NB2211: Due to structural reorganization of this course, the course content will be different from last academic year. Students that passed the practicals in academic year 2013-2014 only need to retake the exam for the course TN2211.

#### Article 6b. COMPOSITION OF THE STUDY PROGRAMME OF THE SECOND YEAR; 2013-2014.

Second year Nanobiology; Academic year 2013-2014								
Course	Code	EC	Attainments (see Art 1.4 OER)					
			1	2	3	4	5	6
Differential equations	WI2140TN	3	X					
Instrumentation / LabView	TN2211	6	X			X		
Physical Biology of the Cell	NB2071	3	X	X				X
Physics 2	NB2141	3	X	X				
Signals and Systems	TN2545	6	X					
Philosophy and Ethics part 1	NB2021	2	X		X		X	X
Philosophy and Ethics part 2	NB2051	1	X	X	X		X	X
Journal Club	NB2151	1	X	X	X		X	X
Evolutionary Developmental Biology Part 1&2	NB2031	6	X	X		X		X
Thermodynamics and Transport	NB2011	3	X					
Optics & Microscopy	NB2041	3	X	X		X		X
Advanced Evolution	NB2111	3	X	X				X

Statistics	WI3104TN	3	X					
Statistical Physics	TN2624NB	3	X					
Computation / Matlab	TN2513	3	X			X		
Image Analysis	NB2121	3	X	X				
Bioinformatics	NB2161	4.5	X	X				X
Nanotechnology	NB2081	2		X	X		X	X
Microscopy practice	NB2046	1.5	X			X		

**Article 6c. COMPOSITION OF THE STUDY PROGRAMME OF THE THIRD YEAR; 2014-2015.**

Third year Nanobiology; Academic year 2014-2015								
Course	Code	EC	Attainments (see Art 1.4 OER)					
			1	2	3	4	5	6
Minor Nanobiology	NB-MI-183	30						
Bachelor thesis end project	NB3000	20						
Current topics in Nanobiology: Cancer Biology	NB3010	2						
Current topics in Nanobiology: Nanomedicine	NB3011	2						
Current topics in Nanobiology: Protein structure, theory & tools	NB3012	2						
Current topics in Nanobiology: Synthetic Biology	NB3013	2						
Current topics in Nanobiology: Stem Cell Biology	NB3014	2						
Current topics in Nanobiology: Genomics and Proteomics	NB3015	2						

**Article 6d: HONOURS TRACK**

For the Bachelor Nanobiology a general honours track can be followed through the Erasmus University Rotterdam. This Erasmus Honours Programme is for second year students who have completed their "P-in-1" before the end of September 2014 and have obtained an average grade > 7.5. These students can compete for one of the 25 positions in this 'class of excellence'. Student who participate successfully will receive an honourable record on their Bachelor diploma and a 'Letter of Recommendation' from the rector magnificus of the EUR.



## Paragraph 4: Exams

### Article 7: FORM OF THE EXAM AND THE ASSESSMENT STRATEGY

1. The form of the exam and the assessment strategy is described for each course in the digital studyguide: <http://www.studiegids.tudelft.nl/>
2. Attendance requirement is specified for each course in the digital studyguide or on Blackboard at the start of the course.
3. Rules on the composition of the final course grade can be found in the "OER" and the "Rules and Regulations of the Exam Committee"

### Article 8: BACHELOR THESIS PROJECT

Admission requirements for a student to register for the Bachelor end project is when the student has finalized the propaedeutic phase and 60EC in addition to that (P + 60).

Preferably all second year courses are finalized. In the case that some second year courses are not finalized before the start of the BSc end project and when these courses are relevant for the subject in the BSc end project, the student cannot start with this end project.

### Article 9: ORDER OF THE EXAMS

This Article describes the order of the exams and the prerequisites to participate in practical work.

1. Attendance requirement is specified in the digital studyguide or on Blackboard at the start of the course.
2. The laboratory practices in the propedeutic phase are mandatory. This includes the introductory lectures and the laboratory work.
3. The practice in Electronic Instrumentation in the second year is mandatory and can only be followed when the safety training test on the first practice day is successfully passed.

### Article 10: SCHEDULE FOR RESITS ACADEMIC YEAR 2014-2015

#### 1<sup>st</sup> Year

In the propaedeutic phase the resits will be planned during four periods.

5-9 January	Friday 27 <sup>th</sup> February	1-5 June	10-14 August
Genetics NB1022	Chemistry 2 NB1110	Biomol. Dynamics-1 NB1012	Biomol. Dynamics-2 NB1016
Intro to Nanobiology NB1031		Faculty Seminar NB1042	Biophysics NB1131
Analysis 1 WI1411NB		Physics 1a (octal3-4) NB1142	Phys. Biol. of the Cell NB1071
Chemistry NB1102		Physica 1b (octal 5) NB1143	Labcourse-2 NB1066
		Journal Club NB1052	Linear Algebra WI1142NB
		Analysis 2 WI1422NB	Analysis 3 WI1413NB
		Labcourse-1 NB1062	Bio.Mol.Programming NB1120

#### 2<sup>nd</sup> Year

In the 2<sup>nd</sup> year the resits will be scheduled in the evening hours from 18.00-21.00 hours, in the 10<sup>th</sup> week after the regular exam.

### **3<sup>rd</sup> Year**

In the 3<sup>rd</sup> year the resits will be scheduled 10 weeks after the regular exam or in the retake period from 10-14 August.

### **Paragraph 5 Degree Audit**

#### **Article 10. TRANSITION REGULATIONS**

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### **Paragraph 6 Introduction provision**

#### **Article 11: ENTRY INTO FORCE**

The implementation regulation is valid for the academic year 2014-2015 starting on september 1st 2014