

# **Implementation Regulation for the BSc Programme Nanobiology 2019-220**

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

Faculty of Medicine (Erasmus MC) of  
the Erasmus University Rotterdam

and

Faculty of Applied Sciences of  
Technical University Delft

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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 2, Article 3 of the Teaching and Examination Regulation Nanobiology (TER 2019-2020)

### Article 3. Final attainments

Final attainments of the BSc programme are describe in Section 3, Article 5 of the Teaching and Examination Regulation Nanobiology (TER 2019-2020)

The Bachelor of Science graduate of the programme Nanobiology that has the aim to bridge the fields of mathematics, physics and biology. The student:

1. will have relevant, current and fundamental knowledge of mathematics, physics and biology, as well as the methods and techniques of scientific research.
2. will be able to identify related concepts in biology and physics and to apply knowledge from one field of science to another.
3. will be able to use the acquired knowledge to follow current scientific research in the fields of biology and biophysics intensively, in addition to understanding and interpreting this literature.
4. will have demonstrable experimental research skills in the fields of molecular biology and biophysics.
5. will have the required communication skills.
6. will be aware of the need for lifelong learning and of the utility of creativity to the achievement of scientific progress.

### Article 4. Minor

The BSc programme Nanobiology is a three year BSc programme of 180credit. The first year-phase is 60credit, the second and third year phase consist of 120credit.

The programme has a major/minor structure. The major is the main component of the BSc (60 credits first year phase + 90 credits second and third year phase). The minor phase in the first semester of the third year is 30 credits, 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 first year phase + 30 credit 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 and Leiden Universitie. Minors at these universities do not need approval from the Board of Examiners Nanobiology. Minors at other universities or self-composed minors need to be approval by the board of examiners.

## Paragraph 2 First year Bachelor program Nanobiology

### Article 5a. COMPOSITION OF THE STUDY PROGRAMME OF THE PROPEDEUTIC PHASE; 2012-2013

Propaedeutic exam Academic year 2012-2013								
Course	Code	credit	Attainments (see Art 4 TER)					
			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
Journal Club	NB1051	2	X	X	X			X

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

Propaedeutic exam Academic year 2013-2014								
Course	Code	credit	Attainments (see Art 4 TER)					
			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

#### Article 5c. COMPOSITION OF THE STUDY PROGRAMME OF THE THE FIRST YEAR; 2014-2015

First year bachelor program Nanobiology academic year 2014-2015								
Course	Code	credit	Attainments (see Art 4 TER)					
			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

#### Article 5d. COMPOSITION OF THE STUDY PROGRAMME OF THE FIRST YEAR; 2015-2016

First year bachelor program Nanobiology academic year 2015-2016								
Course	Code	credit	Attainments (see Art 4 TER)					
			1	2	3	4	5	6
Analysis 1	WI1415NB	5	X					
Analysis 2	WI1423NB	5	X					
Analysis 3	WI1416NB	3	X					
Linear Algebra (WI1142TN)	WI1142NB	3	X					

Physics 1a	NB1140	4	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)	NB1072	3	X	X				X
Introduction to Studying Nanobiology	NB1031	3	X				X	X
Lab Course 'Nanobiology' part 1	NB1062	3	X			X	X	
Lab Course 'Nanobiology' part 2	NB1066	3	X			X	X	
Biophysics	NB1132	3	X	X		X		
Journal Club	NB1052	3	X	X	X		X	X

#### Article 5e. COMPOSITION OF THE STUDY PROGRAMME OF THE FIRST YEAR; 2016-2017

The study programme for the first year in academic year 2016-2017 is same as for academic year 2015-2016 except for:

The course Biomolecular Dynamics will be renamed to: Molecular Biology. The course code will stay the same. It has no effect on the content of the programme.

First year bachelor program Nanobiology academic year 2016-2017								
Course	Code	credit	Attainments (see Art 4 TER)					
			1	2	3	4	5	6
Molecular Biology	NB1016	3	X	X				

#### Article 5f. COMPOSITION OF THE STUDY PROGRAMME OF THE FIRST YEAR; 2017-2018

The study programme for the first year in academic year 2017-2018 is same as for academic year 2015-2016

#### Article 5g. COMPOSITION OF THE STUDY PROGRAMME OF THE FIRST YEAR; 2018-2019

The study programme for the first year in academic year 2018-2019 is same as for academic year 2017-2018

#### Article 5h. COMPOSITION OF THE STUDY PROGRAMME OF THE FIRST YEAR; 2019-2020

The study programme for the first year in academic year 2019-2020 is same as for academic year 2018-2019 except for:

The course Biomolecular Dynamics will be renamed to: Biochemistry. The course code will stay the same. It has no effect on the content of the programme. The coursecode for the linear algebra course will change, new code is not yet available, it has no effect on the content of the programme.

First year bachelor program Nanobiology academic year 2019-2020								
Course	Code	credit	Attainments (see Art 4 TER)					
			1	2	3	4	5	6
Molecular Biology	NB1012	3	X	X				

## Paragraph 3: Second Year

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

Second year Nanobiology; Academic year 2013-2014								
Course	Code	credit	Attainments (see Art 4 TER)					
			1	2	3	4	5	6
Differential equations	WI2140TN	3	X					
Electronic Instrumentation	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 6b. COMPOSITION OF THE STUDY PROGRAMME OF THE SECOND YEAR; 2014-2015.

Second year Nanobiology; Academic year 2014-2015								
Course	Code	credit	Attainments (see Art 4 TER)					
			1	2	3	4	5	6
Differential equations	NB2061	3	X					
Electronic Instrumentation	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		



**Article 6c. COMPOSITION OF THE STUDY PROGRAMME OF THE SECOND YEAR; 2015-2016.**

Second year Nanobiology; Academic year 2015-2016								
Course	Code	credit	Attainments (see Art 4 TER)					
			1	2	3	4	5	6
Differential equations	NB2061	3	X					
Electronic Instrumentation	NB2211-14	6	X			X		
Physical Biology of the Cell	NB2072	3	X	X			X	
Physics 2	NB2141	3	X	X				
Signals and Systems	TN2545	6	X					
Philosophy and Ethics	NB2022	3	X		X		X	
Journal Club	NB2151	1	X	X	X		X	
Evolutionary Developmental Biology Part 1&2	NB2032	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	NB2171	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	
Microscopy / Nanoscopy practice	NB2046	1.5	X			X		

**Article 6d. COMPOSITION OF THE STUDY PROGRAMME OF THE SECOND YEAR; 2016-2017.**

**The study programme for the second year in academic year 2016-2017 is same as for academic year 2015-2016.**

**Article 6e. COMPOSITION OF THE STUDY PROGRAMME OF THE SECOND YEAR; 2017-2018.**

**The study programme for the second year in academic year 2017-2018 is same as for academic year 2016-2017.**

**Article 6f. COMPOSITION OF THE STUDY PROGRAMME OF THE SECOND YEAR; 2018-2019.**

**The study programme for the second year in academic year 2018-2019 is same as for academic year 2017-2018.**

**Article 6g. COMPOSITION OF THE STUDY PROGRAMME OF THE SECOND YEAR; 2019-2020.**

**The study programme for the second year in academic year 2019-2020 is same as for academic year 2018-2019.**

## Paragraph 4 Third Year

### Article 7a. COMPOSITION OF THE STUDY PROGRAMME OF THE THIRD YEAR; 2014-2015.

Third year Nanobiology; Academic year 2014-2015		
Course	Code	credit
Minor Nanobiology	NB-MI-183	30
Bachelor thesis project	NB3000	20
Current topics in Nanobiology: Cancer Biology	NB3010	2,5
Current topics in Nanobiology: Nanomedicine	NB3011	2,5
Current topics in Nanobiology: Protein structure, theory & tools	NB3012	2,5
Current topics in Nanobiology: Synthetic Biology	NB3013	2,5
Current topics in Nanobiology: Stem Cell Biology	NB3014	2,5
Current topics in Nanobiology: Genomics and Proteomics	NB3015	2,5
Current topics in Nanobiology: A primer on High-Speed Scientific Simulations	NB3016	2,5
Quantum mechanics in Nanobiology - 1	NB3017	2,5
Quantum mechanics in Nanobiology - 2	NB3018	2,5
Current topics in Nanobiology: Molecular Motors	NB3019	2,5
Current topics in Nanobiology: Genomics and Proteomics Technology in Breast Cancer Research'	NB3020	2,5

### Article 7b. COMPOSITION OF THE STUDY PROGRAMME OF THE THIRD YEAR; 2015-2016.

Third year Nanobiology; Academic year 2015-2016		
Course	Code	credit
Minor Nanobiology	NB-MI-183	30
Bachelor thesis project	NB3000	20
Current topics in Nanobiology: Cancer Biology	NB3010	2,5
Current topics in Nanobiology: Nanomedicine	NB3011	2,5
Current topics in Nanobiology: Protein structure, theory & tools	NB3012	2,5
Current topics in Nanobiology: Synthetic Biology	NB3013	2,5
Current topics in Nanobiology: A primer in Neural Networks	NB3014	2,5
Current topics in Nanobiology: Systems Neurobiology	NB3015	2,5
Current topics in Nanobiology: A primer on High-Speed Scientific Simulations	NB3016	2,5
Quantum mechanics in Nanobiology - 1	NB3017	2,5
Quantum mechanics in Nanobiology - 2	NB3018	2,5
Current topics in Nanobiology: Molecular Motors	NB3019	2,5
Current topics in Nanobiology: Genomics and Proteomics Technology in Breast Cancer Research'	NB3020	2,5

#### Article 7c. COMPOSITION OF THE STUDY PROGRAMME OF THE THIRD YEAR; 2016-2017.

Third year Nanobiology; Academic year 2016-2017		
Course	Code	credit
Minor Nanobiology	NB-MI-183	30
Bachelor thesis project	NB3000	20
Current topics in Nanobiology: Cancer Biology	NB3010	2,5
Current topics in Nanobiology: Nanomedicine	NB3011	2,5
Current topics in Nanobiology: Protein structure, theory & tools	NB3012	2,5
Current topics in Nanobiology: A primer in Neural Networks	NB3014	2,5
Current topics in Nanobiology: Systems Neurobiology	NB3015	2,5
Current topics in Nanobiology: A primer on High-Speed Scientific Simulations	NB3016	2,5
Quantum mechanics in Nanobiology - 1	NB3017	2,5
Quantum mechanics in Nanobiology - 2	NB3018	2,5
Current topics in Nanobiology: Molecular Motors	NB3019	2,5
Optics and its application in Nanobiology	NB3021	2,5

#### Article 7d. COMPOSITION OF THE STUDY PROGRAMME OF THE THIRD YEAR; 2017-2018.

Changes to last years programme are:

- Removed from the list of courses: NB3019: Current topics in Nanobiology: Molecular Motors
- Added to the list of courses: NB3022: Current topics in Nanobiology: Epigenetics
- Added to the list of courses: NB3020: Current topics in Nanobiology: Genomics and Proteomics Technology in Breast Cancer Research (*Note: with reservation: dependent on the availability of the teacher*)

#### Article 7e. COMPOSITION OF THE STUDY PROGRAMME OF THE THIRD YEAR; 2018-2019.

Changes to last years programme are:

- Added to the list of courses: NB3019: Current topics in Nanobiology: Molecular Motors

#### Article 7f. COMPOSITION OF THE STUDY PROGRAMME OF THE THIRD YEAR; 2019-2020.

There are no changes compared to last years programme.

## Paragraph 5 Hounours Program

### Article 8a: Admission to the Honours program

Requirements : average grade  $\geq$  8.0, first year completed (= 60 EC), strong motivation (proven capability and willingness to commit for two years) and study plan for extracurricular activities. All Nanobiology students who meet these requirements are welcome to apply for the Honours programme of Nanobiology. Students will be selected by the HP director and coordinator.

### Article 8b: HONOURS PROGRAM 2015-2016

Nanobiology Honours program; Academic year 2015-2016		
Course	Code	credit
Honours programme Seminars	NB2901HPB	2
Honours programme Journal Club	NB2902HPB	4
Honours programme Project	NB2903HPB	7
Honours programme Project – In depth research overview	NB2903HPB-RO	
Honours programme Project – Research proposal	NB2903HPB-RQ	
Honours programme Project – Business plan	NB2903HPB-BP	
Honours programme Broaden-your-experience-project	NB2904HPB	2

### Article 8c: HONOURS TRACK 2016-2017

There are no changes in the Honours Programme compared to year 2015-2016

### Article 8d: HONOURS TRACK 2017-2018

There are no changes in the Honours Programme compared to year 2016-2017

### Article 8e: HONOURS TRACK 2018-2019

There are no changes in the Honours Programme compared to year 2017-2018

### Article 8f: HONOURS TRACK 2019-2020

The Honours programme compared to year 2018-2019 is the same only change is the addition of a 5EC project.

Nanobiology Honours program; Academic year 2019-2020		
Course	Code	credit
Honours programme Project	NB2905HPB	5

This course is similar to Honours programme project NB2903HPB but worth of 5 EC instead of 7 EC (this will be administratively processed under codes NB2905HPB-BP / NB2905HPB-RO / NB2905HPB-RP). The remaining 2 EC can then be covered by doing an extra interdisciplinary honours course ( so-called 'collective honours courses').

## Paragraph 6: Exams

### Article 9: 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 Brightspace at the start of the course.
3. Rules on the composition of the final course grade can be found in the "TER" and the "Rules and Regulations of the Exam Committee"

### Article 10: Minor

Deepen knowledge and skills in current methods, techniques, and instruments used in Nanobiology research

- 3 Modules of ~6 weeks (10 ec each)
- Students will work in (small) groups
- Entry requirement: **60EC from the first year + 30 ec from the second year**
- Application: 1-31 May via application form

Each module will be assessed by the responsible faculty/instructors of the module.

Each module needs to be graded sufficient (5.8 or higher) for the student to pass the minor.

In the case one individual module is graded with < 5.8, the module responsible with the minor coordinator will decide on the re-take. The final grade is the weight average of 3 grades received.

### Article 11: Bachelor thesis project

Admission requirements for a student to register for the Bachelor thesis project: **60 EC from the first year plus 60EC from 2<sup>nd</sup> and 3<sup>rd</sup> year.**

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 these courses are relevant for the subject in the BSc end project, the student cannot start with this end project.

Information on the Bachelor end project and a list of participating faculty members and projects can be found on Brightspace: Brightspace "Eindprojecten Administratie TNW / Thesis Office Applied Sciences"

### Article 12: 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 Brightspace at the start of the course.
2. The laboratory practices in the first year 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.
4. Requirement to take part in the deepening minor Nanobiology is finalizing Labcourse 1 and 2 (NB1062 and NB1066) from the first year

### Article 13: Schedule for Resits academic year 2019-2020

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

In the first year bachelor phase the resits will be planned as follows.

<b>6-10 January 2020</b>	<b>25 February 2020</b>	<b>18-20 May 2020</b>	<b>29 June 2020</b>	<b>10-14 August 2020</b>
Genetics NB1022	Chemistry 2 NB1110	Biochemistry NB1012	Labcourse-1 NB1062	Molecular Biology NB1016
Intro to Nanobiology NB1031		Physics 1a NB1140		Biophysics NB1132
Analysis 1 WI1415NB		Journal Club NB1052		Phys. Biol. of the Cell NB1072
Chemistry 1 NB1102		Analysis 2 WI1423NB		Labcourse-2 NB1066
				Linear Algebra WI1142NB
				Analysis 3 WI1416NB
				Physics 1b NB1143

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

In the 2<sup>nd</sup> year the resits for octal 1-6, courses will be scheduled during the day but only when there is no overlap with year 1 and 2 regular exams. Otherwise the resit will be scheduled in the evening hours from 18.00-21.00 hours. In most cases the resit will take place in the 10<sup>th</sup> week after the regular exam (holiday not included) For courses from octal 3 and 4 the resit can take place in the 15<sup>th</sup> week after the regular exam. Resits for courses in octal 7 and 8 will be in the August retake period (week 5.6)

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

In the 3<sup>rd</sup> year the resits for octal 1-6 courses will be scheduled 10 weeks after the regular exam (holiday not included). Resits for courses in octal 7 and 8 will be in the August retake period (week 5.6)

## Paragraph 7 Degree Audit

### Article 14a: Transition regulation academic year 2014-2015

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.

NB1141 from academic year 2012-2013 is replaced by NB1142 and NB1143 starting in academic year 2013-2014. Students from cohort 2012 will have to pass both courses NB1142 (3EC) and NB1143 (3EC) to have the equivalent of NB1041 (6EC)

WI2240TN will become NB2061 differential equations

### Article 14b: Transition regulation academic year 2015-2016

Program 2015-2016			Program 2014-2015		
Code	Course name	EC	Code	Course name	EC
WI1415NB	Analysis 1	5	WI1411NB	Analysis 1	5
WI1423NB	Analysis 2	5	WI1422NB	Analysis 2	5
WI1416NB	Analysis 3	3	WI1413NB	Analysis 3	3
NB1140	Physics 1a	4	NB1142	Physics 1a	3
NB1062	Labcourse Nanobiology part 1	3	NB1062	Labcourse Nanobiology	3
NB1066	Labcourse Nanobiology part 2	3	NB1066	Labcourse Nanobiology	3
NB1072	Physical Biology of the cell	3	NB1071	Physical Biology of the cell	3
NB1132	Biophysics	3	NB1131	Biophysics	3
Faculty seminar will not continue			NB1042	Faculty seminar	1
NB2211-14	Electronic instrumentation	6	NB2211	Electronic instrumentation	6
NB2032	Evolutionary Developmental Biology part 1 and 2	6	NB2031	Evolutionary Developmental Biology part 1 and 2	6
NB2171	Statistics	3	WI3104TN	Statistics	3
NB3020	Current topics in Nanobiology: Genomics and Proteomics Technology in Breast Cancer Research	2,5	New course also accessible for students from before cohort 2013		

NB1140: Physics 1a: students from cohort 2014 or before will receive 4 EC for retake of Physics 1a

NB1042: Faculty seminar: students from cohort 2014 and before Two retake moments will be available for students that need to retake this course.

### Article 14c: Transition regulation academic year 2016-2017

Program 2016-2017			Program 2015-2016		
Code	Course name	EC	Code	Course name	EC
NB1016	Molecular Biology	3	NB1016	Biomolecular Dynamics	3

**Article 14d: Transition regulation academic year 2017-2018**

n.a.

**Article 14e: Transition regulation academic year 2018-2019**

n.a.

**Article 14f: Transition regulation academic year 2019-2020**

<b>Program 2019-2020</b>			<b>Program 2018-2019</b>		
<b>Code</b>	<b>Course name</b>	<b>EC</b>	<b>Code</b>	<b>Course name</b>	<b>EC</b>
NB1012	Biochemistry	3	NB1016	Biomolecular Dynamics	3

## **Paragraph 8 Introduction provision**

**Article 15: Entry into force**

The implementation regulation is valid for the academic year 2019-2020 starting on September 1st 2019