

# **Onderwijs- en examenregeling**

## **Master's programme in Bioinformatics**

Deel B:  
Opleidingsspecifiek deel  
Studiejaar 2014-2015

# **Teaching and Examination Regulations**

## **Master's programme in Bioinformatics**

Part B:  
Programme-specific section  
Academic year 2014-2015



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## **Deel B: opleidingsspecifiek deel**

### **1. Algemene bepalingen**

#### **Artikel 1.1 Gegevens opleiding**

1. De opleiding Bioinformatics, CROHO nummer 60106 wordt in voltijdse vorm verzorgd, en in het Engels uitgevoerd.
2. De opleiding heeft een omvang van 120 EC.
3. Een onderwijsseenheid omvat 6 EC of een veelvoud daarvan.

#### **Artikel 1.2 Instroommoment**

De opleiding wordt aangeboden met ingang van het eerste semester van een studiejaar (1 september).

## **2. Programme objectives and exit qualifications**

### **Artikel 2.1 Programme objective**

The objective of the programme is for graduates to acquire a worldview, knowledge, practical skills and insight to enable them to conduct research in various fields of application in bioinformatics and systems biology. The programme aims to teach key techniques and formalisms, while providing sufficient options for differentiation. The Master's in Bioinformatics and Systems Biology equips students with knowledge and understanding of complex cellular organizations.

The Master's in Bioinformatics and Systems Biology also seeks to teach students the technical skills of programming, algorithm design, data storage, search protocols and modelling, all in the interest of solving biological and genomic problems, and with a link to practical application in some courses and laboratory work. The programme also aims to promote an understanding of science's societal impact.

## **Part B: Programme-specific section**

### **1. General provisions**

#### **Article 1.1 Programme details**

1. The programme in Bioinformatics (CROHO number 60106) is a full-time programme taught in English
2. The programme consists of 120 credits.
3. An educational unit comprises 6 credits or a multiple thereof.

#### **Article 1.2 Start date**

The programme starts each year in the autumn (1 September).

## **2. Programme objectives and exit qualifications**

### **Article 2.1 Programme objective**

The objective of the programme is for graduates to acquire a worldview, knowledge, practical skills and insight to enable them to conduct research in various fields of application in bioinformatics and systems biology. The programme aims to teach key techniques and formalisms, while providing sufficient options for differentiation. The Master's in Bioinformatics and Systems Biology equips students with knowledge and understanding of complex cellular organizations.

The Master's in Bioinformatics and Systems Biology also seeks to teach students the technical skills of programming, algorithm design, data storage, search protocols and modelling, all in the interest of solving biological and genomic problems, and with a link to practical application in some courses and laboratory work. The programme also aims to promote an understanding of science's societal impact.

## **Artikel 2.2 Exit qualifications**

It is expected that the graduated student in Bioinformatics and Systems Biology:

- have amassed solid academic knowledge and understanding in the field of bioinformatics and systems biology (including bioinformatics and computer issues and necessary background knowledge of other disciplines such as molecular biology, biophysics and genomics);
- have acquired profound knowledge, insight and practical experience in at least one specialist area of bioinformatics or systems biology;
- are able to quickly acquire specialist knowledge, understanding and skills in other areas of bioinformatics and systems biology;
- are able to evaluate their own performance, both in self-reflection and in discussion with others;
- have developed practical skills in a relevant area of bioinformatics and systems biology at university level, including laboratory and/or safety procedures where appropriate;
- have a comprehensive overview of the applications of bioinformatics and systems biology in general and specific specializations in particular, and are able to apply their newly acquired knowledge and skills to new and unfamiliar problems;
- are capable of writing research or project plans on the basis of realistic problem descriptions in the field of bioinformatics and systems biology;
- are able to access and use international professional literature in the relevant sub-domain of bioinformatics and systems biology;
- are able to analyse and evaluate scientific results, make inferences based on those results, and report them in laboratory notebooks, written reports and oral presentations;
- are able to function in professional positions, where scientific knowledge and skills in bioinformatics and systems biology on an academic level are required;
- have developed a critical, scientific attitude towards social and ethical aspects of bioinformatics and systems biology and related disciplines (e.g. genomics);
- are able to communicate at a professional level with other bioinformatics and systems biology specialists, as well as with specialists in other disciplines, and can deliver clear oral and written presentations on their research;
- are well prepared for further university studies at doctoral level or for further postgraduate education as a professional in the field of bioinformatics and systems biology.

## **Article 2.2 Exit qualifications**

Graduates of the Master's programme in Bioinformatics and Systems Biology:

- have amassed solid academic knowledge and understanding in the field of bioinformatics and systems biology (including bioinformatics and computer issues and necessary background knowledge of other disciplines such as molecular biology, biophysics and genomics);
- have acquired profound knowledge, insight and practical experience in at least one specialist area of bioinformatics or systems biology;
- are able to quickly acquire specialist knowledge, understanding and skills in other areas of bioinformatics and systems biology;
- are able to evaluate their own performance, both in self-reflection and in discussion with others;
- have developed practical skills in a relevant area of bioinformatics and systems biology at university level, including laboratory and/or safety procedures where appropriate;
- have a comprehensive overview of the applications of bioinformatics and systems biology in general and specific specializations in particular, and are able to apply their newly acquired knowledge and skills to new and unfamiliar problems;
- are capable of writing research or project plans on the basis of realistic problem descriptions in the field of bioinformatics and systems biology;
- are able to access and use international professional literature in the relevant sub-domain of bioinformatics and systems biology;
- are able to analyse and evaluate scientific results, make inferences based on those results, and report them in laboratory notebooks, written reports and oral presentations;
- are able to function in professional positions, where scientific knowledge and skills in bioinformatics and systems biology on an academic level are required;
- have developed a critical, scientific attitude towards social and ethical aspects of bioinformatics and systems biology and related disciplines (e.g. genomics);
- are able to communicate at a professional level with other bioinformatics and systems biology specialists, as well as with specialists in other disciplines, and can deliver clear oral and written presentations on their research;
- are well prepared for further university studies at doctoral level or for further postgraduate education as a professional in the field of bioinformatics and systems biology.

### **3. Further admission requirements**

#### **Artikel 3.1 Admission requirements**

1. Students will be admitted to the degree programme if they hold a letter of acceptance, issued by or on behalf of the Faculty Board because they have demonstrated that they meet the knowledge, understanding and skills requirements reflecting the final level of attainment in a university Bachelor's degree programme.
2. Prior education requirements:
  - A Bachelor's degree in Bioinformatics, Biology, Computer Science, Pharmaceutical Sciences, Medicinal Chemistry, Medicine, Health Sciences, Medical Science, Physics, Chemistry, or Mathematics from a Dutch university, or equivalent, provided sufficient knowledge has been obtained in the fields of biology, mathematics and/or programming, at the discretion of the Examination Board.
  - English language proficiency at pre-university (VWO) final-exam level.
3. Those not yet in possession of a Bachelor's degree, but who meet the requirements of knowledge, insight and skills specified in paragraph 1, may on request be granted admission to the Master's programme, insofar as failure to grant admission would result in undue unfairness.
4. The letter of acceptance only pertains to the academic year following the academic year in which the application for that admission is submitted, unless the Executive Board decides otherwise.

#### **Artikel 3.2 Premasterprogramma**

1. Degene die over een bachelorgraad beschikt in een vakgebied dat in voldoende mate overeenkomt met het vakgebied van de masteropleiding, kan toelating verzoeken tot de premasteropleiding.
2. Het premasteropleiding telt 60 EC.
3. Een bewijs van een met goed gevolg afgeronde premasteropleiding geldt als bewijs van toelating tot de daarin vermelde masteropleiding in het aansluitende studiejaar.

#### **Artikel 3.3 niet van toepassing (n.v.t.)**

#### **Artikel 3.4 Uiterste termijn aanmelding**

1. Aanmelding, via Studielink, voor een masteropleiding door een student die geen bachelorexamen heeft behaald aan de VU is alleen mogelijk tot en met 31 mei 2014.
2. In afwijkung van lid 1 dienen studenten die gebruik wensen te maken van diensten van het International Office op het gebied van visumbemiddeling en huisvesting zich voor 1 april 2014 aan te melden.
3. Inschrijven voor een masteropleiding is mogelijk tot en met 31 augustus 2014.
4. Een student die aan de VU een bacheloropleiding heeft gevolgd en een masteropleiding wil volgen, kan zich aanmelden en inschrijven tot en met 31 augustus 2014.

### **3. Further admission requirements**

#### **Article 3.1 Admission requirements**

5. Students will be admitted to the degree programme if they hold a letter of acceptance, issued by or on behalf of the Faculty Board because they have demonstrated that they meet the knowledge, understanding and skills requirements reflecting the final level of attainment in a university Bachelor's degree programme.
6. Prior education requirements:
  - A Bachelor's degree in Bioinformatics, Biology, Computer Science, Pharmaceutical Sciences, Medicinal Chemistry, Medicine, Health Sciences, Medical Science, Physics, Chemistry, or Mathematics from a Dutch university, or equivalent, provided sufficient knowledge has been obtained in the fields of biology, mathematics and/or programming, at the discretion of the Examination Board.
  - English language proficiency at pre-university (VWO) final-exam level.
7. Those not yet in possession of a Bachelor's degree, but who meet the requirements of knowledge, insight and skills specified in paragraph 1, may on request be granted admission to the Master's programme, insofar as failure to grant admission would result in undue unfairness.
8. The letter of acceptance only pertains to the academic year following the academic year in which the application for that admission is submitted, unless the Executive Board decides otherwise.

#### **Article 3.2 Pre-Master's programme**

1. Applicants who have a Bachelor's degree in a field that sufficiently corresponds to the field of the Master's programme may request admission to the pre-Master's programme.
2. The pre-Master's programme consists of 60 credits
3. A certificate stating that the student has successfully completed the pre-Master's programme serves as a letter of acceptance to the associated Master's programme in the next academic year.

#### **Article 3.3 not applicable**

#### **Article 3.4 Registration deadline**

1. Students who wish to apply for a Master's programme and have not obtained their Bachelor's degree at VU University Amsterdam must apply through Studielink by 31 May 2014.
2. As an exception to paragraph 1, students who wish to use the services of the International Office for assistance in securing visas and housing need to apply before 1 April 2014.
3. Registration for a Master's programme is only possible until 31 August 2014.
4. Students who have obtained their Bachelor's degree from VU University Amsterdam and wish to register for a Master's programme can apply and register until 31 August 2014.

## **Artikel 3.5 Taaleisen Engels bij Engelstalige masteropleidingen**

1. Aan de eis inzake beheersing van de instructietaal Engels, is voldaan na het met goed gevolg afleggen van één van de volgende examens of een equivalent daarvan:
  - IELTS: 6.5
  - TOEFL paper based test: 580
  - TOEFL internet based test: 92-93
  - Cambridge Advanced English: A, B or C.
2. Vrijstelling van het een in het eerste lid genoemd examen Engels wordt verleend aan degene die vwo eindexamen Engels heeft behaald of aan degene die niet langer dan twee jaar voor aanvang van de opleiding:
  - heeft voldaan aan de eisen van de VU-test Engelse Taalvaardigheid TOEFL ITP, minimaal met de scores zoals bepaald in het eerste lid, of
  - een vooropleiding secundair of tertiair onderwijs heeft genoten in een Engelstalig land dat als zodanig is vermeld op de website van de VU, of
  - die over een diploma ‘international baccalaureate’ (Engelstalig) beschikt.

## **Article 3.5 English language requirements for Master's programmes taught in English**

1. Successful completion of one of the following examinations or an equivalent is regarded as proof that the requirement relating to proficiency in English as the language of instruction has been met:
  - IELTS: 6.5
  - TOEFL paper-based test: 580
  - TOEFL internet-based test: 92-93
  - Cambridge Advanced English: A, B or C.
2. An exemption from the English language proficiency requirement in paragraph 1 will be granted to those who have passed the final Dutch secondary school examination in English at pre-university level (VWO) and those who, no more than two years prior to commencement of the programme:
  - anyone who has met the requirements of the VU University Amsterdam English language proficiency test, TOEFL ITP, attaining or surpassing the score stated in paragraph 1, or
  - have completed secondary or higher education in an English-speaking country as specified on the relevant pages of VU University Amsterdam's website, or
  - are in possession of an international baccalaureate diploma (English taught).

## **Artikel 3.6 Vrij programma**

1. De student heeft de mogelijkheid om, onder bepaalde voorwaarden, een eigen onderwijsprogramma samen te stellen dat afwijkt van de door de opleiding voorgeschreven onderwijsprogramma's.
2. De samenstelling van een dergelijk programma behoeft de voorafgaande goedkeuring van de examencommissie die daarvoor het meest in aanmerking komt.
3. Het vrije programma wordt door de student samengesteld uit de onderwijsseenheden die door de Vrije Universiteit worden verzorgd en heeft ten minste de omvang, breedte en diepgang van een reguliere masteropleiding.

## **4. Curriculum structure**

### **Artikel 4.1 Composition of programme**

1. The programme consists of the following components:
  - a. compulsory units of study
  - b. practical exercise
  - c. electives
2. As an exception to paragraph 1, under certain circumstances and with prior approval of the Examination Board, a student may opt for the Free Master's variant.
3. The programme has a study load of 120 credits. One credit is equivalent to 28 hours of study.

## **Article 3.6 Free programme**

1. Under certain conditions, students have the option of departing from the standard curriculum as prescribed by the programme and composing their own study programme.
2. The composition of such a programme requires the prior approval of the Examination Board that has the greatest jurisdiction over the programme components.
3. The free programme is to be composed by the student from educational units offered by VU University Amsterdam, and is to comprise the same study load, depth and scope of a standard Master's programme.

## **4. Programme structure**

### **Article 4.1 Composition of the programme**

1. The programme consists of the following components:
  - a. compulsory units of study
  - b. practical exercise
  - c. electives
2. As an exception to paragraph 1, under certain circumstances and with prior approval of the Examination Board, a student may opt for the Free Master's variant.
3. The programme has a study load of 120 credits. One credit is equivalent to 28 hours of study.

**Artikel 4.2 Compulsory units of study**

MSc Bioinformatics

<b>Educational component</b>	<b>Subject code</b>	<b>Number of credits</b>	<b>Period or semester</b>	<b>Teaching method</b>	<b>Examination format</b>	<b>Level</b>
Fundamentals of Bioinformatics	X_405052	6	1	h, pra	t, o	400
Biosystems Data Analysis	X_437001	6	3	-	-	400
First internship (Major)	X_405027	42	Ac. Year	-	v, pres	400
Introduction to Systems Biology	X_428565	6	Ac. Year	h, w	pres, o	-
Second internship (Minor)	X_405032	18	Ac. Year	-	v, pres	400
Seminar series and writing a research proposal	X_400594	6	Ac. Year	h	v, pres, o	-

**Artikel 4.4 Keuzeruimte**

De student kan, zonder voorafgaande toestemming van de examencommissie, de volgende keuzevakken volgen:

MSc Bioinformatics

**Compulsory courses Bioinformatics Major  
(18 EC vereist)**

<b>Educational component</b>	<b>Subject code</b>	<b>Number of credits</b>	<b>Period or semester</b>	<b>Teaching method</b>	<b>Examination format</b>	<b>Level</b>
Structural Bioinformatics	X_405019	6	4	h, pra	t, o	400
Algorithms in Sequence Analysis	X_405050	6	2	h, pra	t, o	400
Bioinformatics for Translational Medicine	X_405092	6	5	h, pra	t, o	400

**Compulsory optional courses Systems Biology Major (6 EC vereist)**

<b>Educational component</b>	<b>Subject code</b>	<b>Number of credits</b>	<b>Period or semester</b>	<b>Teaching method</b>	<b>Examination format</b>	<b>Level</b>
Synthetic Biology and Biomedicine	X_418125	6	4	h, w, pra	t, v, pres, prac	-
Advanced modelling in Systems Biology	X_418155	6	5	h, w	t, o	-
Programming in R	X_418156	6	5	h, w	o	-

**Compulsory courses Systems Biology Major (12 EC vereist)**

<b>Educational component</b>	<b>Subject code</b>	<b>Number of credits</b>	<b>Period or semester</b>	<b>Teaching method</b>	<b>Examination format</b>	<b>Level</b>
Systems Biology in Practice (VU/UvA)	X_418157	12	2	h	t, v, pres, o	-
Basic Models of Biological Networks	X_418154	6	4	h, w	t	-

**Aangeraden keuzevakken**

<b>Educational component</b>	<b>Subject code</b>	<b>Number of credits</b>	<b>Period or semester</b>	<b>Teaching method</b>	<b>Examination format</b>	<b>Level</b>
Fundamentals of	X_405114	6	1	pro	v, pres, o	-

**Article 4.2 Required educational units**

<b>Educational component</b>	<b>Subject code</b>	<b>Number of credits</b>	<b>Period or semester</b>	<b>Teaching method</b>	<b>Examination format</b>	<b>Level</b>
Fundamentals of Bioinformatics	X_405052	6	1	h, pra	t, o	400
Biosystems Data Analysis	X_437001	6	3	-	-	400
First internship (Major)	X_405027	42	Ac. Year	-	v, pres	400
Introduction to Systems Biology	X_428565	6	Ac. Year	h, w	pres, o	-
Second internship (Minor)	X_405032	18	Ac. Year	-	v, pres	400
Seminar series and writing a research proposal	X_400594	6	Ac. Year	h	v, pres, o	-

**Article 4.4 Optional subjects (electives)**

The student does not need the prior approval of the Examination Board to take the following electives:

**Compulsory courses Bioinformatics Major (18 credits required)**
**Compulsory optional courses Systems Biology Major (6 EC required)**

<b>Educational component</b>	<b>Subject code</b>	<b>Number of credits</b>	<b>Period or semester</b>	<b>Teaching method</b>	<b>Examination format</b>	<b>Level</b>
Synthetic Biology and Biomedicine	X_418125	6	4	h, w, pra	t, v, pres, prac	-
Advanced modelling in Systems Biology	X_418155	6	5	h, w	t, o	-
Programming in R	X_418156	6	5	h, w	o	-

**Compulsory courses Systems Biology Major (12 credits required)**

<b>Educational component</b>	<b>Subject code</b>	<b>Number of credits</b>	<b>Period or semester</b>	<b>Teaching method</b>	<b>Examination format</b>	<b>Level</b>
Systems Biology in Practice (VU/UvA)	X_418157	12	2	h	t, v, pres, o	-
Basic Models of Biological Networks	X_418154	6	4	h, w	t	-

**Recommended electives**

<b>Educational component</b>	<b>Subject code</b>	<b>Number of credits</b>	<b>Period or semester</b>	<b>Teaching method</b>	<b>Examination format</b>	<b>Level</b>
Fundamentals of	X_405114	6	1	pro	v, pres, o	-

**Bioinformatics and Systems  
Biology**

Calculus	X_400617	6	1,2	-	t	100
Signal Transduction in Health and Disease	X_432535	6	2	h	t, pres, o	600
Machine Learning	X_400154	6	4	h, w	-	300
Data Mining Techniques	X_400108	6	5	h	o	500
Molecular Microbial Physiology (UvA)	AM_470632Uv A	6	6	h	t, pres	-

De student die een ander vak wil volgen, dan de  
genoemde onderwijsseenheden, dient vooraf schriftelijk  
toestemming van de examencommissie verkregen te  
hebben.

Students who wish to take a course other than those  
listed must first obtain prior written permission from the  
Examination Board.

#### **Artikel 4.5 Volgordelijkheid tentamens**

Eventuele tentamens en/of praktische oefeningen waaraan niet eerder kan worden deelgenomen dan nadat het tentamen of de tentamens van andere (eerdere) onderdelen is/zijn behaald worden vernoemd in de studiegids.

#### **Artikel 4.6 Deelname aan praktische oefening en werkgroepbijeenkomsten**

1. Van elke student wordt actieve deelname verwacht aan het examenonderdeel waarvoor hij staat ingeschreven.
2. Naast de algemene eis dat de student actief participeert in het onderwijs, worden de aanvullende eisen per examenonderdeel in de studiegids omschreven. Hier staat ook omschreven voor welke onderdelen van het examenonderdeel een aanwezigheidsplicht geldt.
3. Bij het begin van een examenonderdeel is een beschrijving beschikbaar waarin een beschrijving staat van:
  1. De eindtermen van het examenonderdeel;
  2. De studierichtlijnen voor het behalen van een positief resultaat;
  3. De manier waarop de eindtermen worden getoetst;
  4. De tentamenregeling en herkansingsregeling;
  5. De begeleiding door de docent(en) binnen en buiten de geroosterde uren;
  6. De onderdelen van het examenonderdeel voor welke een aanwezigheidsplicht geldt;
  7. De manier waarop de student feedback krijgt op ingeleverde opdrachten, verslagen en presentaties tijdens het examenonderdeel.
1. Als een student door overmacht niet aanwezig kan zijn bij een verplicht onderdeel van het examenonderdeel, dient hij dit zo snel mogelijk schriftelijk te melden bij de examinator en de studieadviseur. De examinator kan, na overleg met de studieadviseur, besluiten om de student een vervangende opdracht op te leggen.
4. Het is niet toegestaan om verplichte onderdelen van een examenonderdeel te missen als er geen sprake is van overmacht.
5. Bij kwalitatief of kwantitatief onvoldoende deelname kan, welke van te voren is vastgelegd en is goedgekeurd door de opleidingsdirecteur, de examinator de student uitsluiten van verdere deelname aan het examenonderdeel of een gedeelte daarvan.

#### **Artikel 4.7 Maximale vrijstelling**

Maximaal 90 studiepunten van het onderwijsprogramma kunnen worden behaald op basis van verleende vrijstellingen.

#### **Artikel 4.8 Geldigheidsduur resultaten**

De geldigheidsduur van tentamens en vrijstellingen voor tentamens is conform Artikel 4.8 OER deel A.

#### **Article 4.5 Sequence of exams**

The study guide details those examinations and/or practical exercises that may only be taken once the exams of other (prior) components have been passed.

#### **Article 4.6 Participation in practical exercises and working group meetings**

1. Student are expected to participate actively in all degree components for which they are registered.
2. In addition to the general requirement regarding active participation, the study guide details additional requirements for each degree component, as well as component attendance requirements.
3. At the start of each degree component, a specification will be made available which details:
  - The final attainment levels of the degree component;
  - The study guidelines for passing the degree component;
  - The way in which the final attainment levels are assessed;
  - The regulations for examinations and resits;
  - The guidance provided by lecturers during scheduled hours and otherwise;
  - Component attendance requirements;
  - The provision of feedback to the student on assignments and reports submitted, and presentations given during the degree component.
4. If a student is prevented by force majeure from attending a required degree component, then the student must send written notification of his or her absence to the examiner and the study advisor as soon as possible. The examiner may, after consultation with the study advisor, give the student an alternative assignment.
5. Absence from degree components with required attendance is only allowed in the case of force majeure.
6. In the event of inadequate participation, either qualitative or quantitative, the examiner may exclude the student from further participation in the degree component or a part of the degree component. The details of the student's inadequate participation must be recorded in advance and approved by the Director of Studies.

#### **Article 4.7 Maximum exemption**

Up to 90 credits of the degree curriculum may be awarded on the basis of exemptions.

#### **Article 4.8 Period of validity for results**

The period of validity for examinations and exemptions for exams is in accordance with Article 4.8 of Part A of the Academic and Examination Regulations.

## **Artikel 4.9 Graad**

Aan de student die het masterexamen met goed gevolg heeft afgelegd, wordt de graad Master of Science verleend. De verleende graad wordt op het getuigschrift vermeld. Ingeval het een gezamenlijke opleiding ('joint degree') betreft, wordt dat vermeld op het getuigschrift.

## **5. Overgangs- en slotbepalingen**

### **Artikel 5.1 Wijziging en periodieke beoordeling deel B**

1. Een wijziging van de onderwijs- en examenregeling van deel B wordt door het faculteitsbestuur vastgesteld na advies van de desbetreffende opleidingscommissie. Het advies wordt in afschrift verzonden aan het bevoegde medezeggenschapsorgaan.
2. Een wijziging van de onderwijs- en examenregeling behoeft de instemming van het bevoegde medezeggenschapsorgaan op de onderdelen die niet de onderwerpen van artikel 7.13, tweede lid onder a t/m g en v, alsmede het vierde lid WHW betreffen en de toelatingseisen tot de masteropleiding.
3. Een wijziging van de onderwijs- en examenregeling kan slechts betrekking hebben op een lopend studiejaar, indien de belangen van de studenten daardoor niet aantoonbaar worden geschaad.

### **Artikel 5.2 Overgangsbepalingen**

In afwijking van de vigerende onderwijs- en examenregeling gelden voor de studenten die met de opleiding zijn begonnen onder een eerdere onderwijs- en examenregeling de volgende overgangsbepalingen:

### **Artikel 5.3 Bekendmaking**

1. Het faculteitsbestuur draagt zorg voor een passende bekendmaking van deze regeling, alsmede van elke wijziging daarvan.
2. De onderwijs- en examenregeling wordt geplaatst op de website van de faculteit en wordt geacht te zijn opgenomen in de studiegids.

### **Artikel 5.4 Inwerkingtreding**

Deze regeling treedt in werking met ingang van 1 september 2014.

Advies opleidingscommissies, 26 augustus 2014, d.d.

Instemming bevoegd medezeggenschapsorgaan, d.d. 13 juni 2014 (FSr) en 26 juni (ODC)

Vastgesteld door het faculteitsbestuur van de Faculteit der Exacte Wetenschappen op 19 september 2014.

## **Article 4.9 Degree**

Students who fulfil all the requirements of the final Master's degree assessment will be awarded the degree of Master of Science. Details of the degree awarded will be recorded on the degree certificate. If the student is studying for a joint degree, then this will be mentioned on the degree certificate.

## **5. Transitional and final provisions**

### **Article 5.1 Amendments and periodic assessment of Part B**

1. An amendment to Part B of the Academic and Examination Regulations will be adopted by the Faculty Board on the recommendation of the relevant Programme Committee. A copy of this recommendation will be sent to the faculty's consultation body.
2. An amendment to the Academic and Examination Regulations requires the endorsement of the faculty's competent consultation body for those sections which do not relate to the subjects of Article 7.13 paragraphs 2 a to g and v, and section 4 of the Act and the admission requirements for the Master's programme.
3. An amendment to the Academic and Examination Regulations may only relate to an academic year already in progress if the interests of the students are not demonstrably harmed.

### **Article 5.2 Transitional provisions**

Notwithstanding the current Academic and Examination Regulations, the following transitional provisions apply to students who started on the programme when an earlier version of the Academic and Examination Regulations was in force:

### **Article 5.3 Publication**

1. The Faculty Board will ensure that these regulations are properly published, and that notice is given of each amendment.
2. The Academic and Examination Regulations will be published on the faculty's website and shall be included in the study guide.

### **Article 5.4 Entry into force**

These regulations enter into force on 1 September 2014.

Recommendations of the programme committees: 26 September 2014

Consent granted by the competent consultation bodies FSr (13 June 2014) and ODC (26 June 2014).

Adopted by the Board of the Faculty of Sciences on 19 September 2014.

## Bijlage I

Overzicht artikelen waarvan in de WHW is bepaald dat deze in de OER moeten worden opgenomen (omkaderde artikelen):

### Deel A

art. 1.17.13 lid 1 WHW  
art. 2.17.13 lid 2 sub w  
art. 3.27.13 lid 2 sub e  
art. 4.27.13 lid 2 sub h en l  
art. 4.37.13 lid 2 sub n  
art. 4.47.13 lid 2 sub o  
art. 4.57.13 lid 2 sub j, h  
art. 4.77.13 lid 2 sub r  
art. 4.87.13 lid 2 sub k  
art. 4.97.13 lid 2 sub p  
art. 4.107.13 lid 2 sub q  
art. 4.117.13 lid 2 sub a  
art. 5.17.13 lid 2 sub u  
art. 5.27.13 lid 2 sub m

### Deel B

art. 1.27.13 lid 2 sub i  
art. 2.17.13 lid 1 sub b, c  
art. 2.27.13 lid 2 sub c  
art. 3.17.25 lid 4  
art. 4.17.13 lid 2 sub a  
art. 4.27.13 lid 2 sub e, h, j, l,  
art. 4.37.13 lid 2 sub t  
art. 4.47.13 lid 2 sub e, h, j, l,  
art. 4.57.13 lid 2 sub s  
art. 4.67.13 lid 2 sub d  
art. 4.87.13 lid 2 sub k

## Appendix I

Summary of Articles which must be included in the Academic and Examination Regulations in accordance with the Act (articles in boxes):

### Part A

Art. 1.17.13 paragraph 1 of the Act  
Art. 2.17.13 paragraph 2 (w)  
Art. 3.27.13 paragraph 2 (e)  
Art. 4.27.13 paragraph 2 (h, l)  
Art. 4.37.13 paragraph 2 (n)  
Art. 4.47.13 paragraph 2 (o)  
Art. 4.57.13 paragraph 2 (j, h)  
Art. 4.77.13 paragraph 2 (r)  
Art. 4.87.13 paragraph 2 (k)  
Art. 4.97.13 paragraph 2 (p)  
Art. 4.107.13 paragraph 2 (q)  
Art. 4.117.13 paragraph 2 (a)  
Art. 5.17.13 paragraph 2 (u)  
Art. 5.27.13 paragraph 2 (m)

### Part B

Art. 1.27.13 paragraph 2 (i)  
Art. 2.17.13 paragraph 1 (b, c)  
Art. 2.27.13 paragraph 2 (c)  
Art. 3.17.25 paragraph 4  
Art. 4.17.13 paragraph 2 (a)  
Art. 4.27.13 paragraph 2 (e, h, j, l)  
Art. 4.37.13 paragraph 2 (t)  
Art. 4.47.13 paragraph 2 (e, h, j, l)  
Art. 4.57.13 paragraph 2 (s)  
Art. 4.67.13 paragraph 2 (d)  
Art. 4.87.13 paragraph 2 (k)

## Bijlage II

## Appendix II