

Faculty of Sciences  
Faculteit der Exacte Wetenschappen

Education and Examination agreement (OER) 2013-2014  
Onderwijs- en Examenregeling (OER) 2013-2014

Masterprogramme: Bioinformatics

## **DEEL B**

1 september 2013

### **Preamble**

This document distinguishes an A and a B section. Part A contains the general provisions that apply to the all Masters offered by FEW. Part B addresses program-specific issues, namely goals, objectives, structure and content of the training program. This section is an integral part of the Education and Examination Regulations

These rules include the following appendices:

#### Appendix I

List of curriculum items belonging to the Master Bioinformatics 2013-2014.

#### Appendix II

List of curriculum items belonging to the Master Bioinformatics 2012-2013.

(In OER parts A and B, article numbers are in accordance with the model OER of the VU. This means that Clauses 1, 2, 5, 5a, 6a, 8, 9, 12-30 are in OER Part A)

### **Paragraaf 1. General Provisions**

### *Artikel 3 Purpose of the program*

1. The objective of the program is to acquire a worldview, knowledge, practical skills and insight to enable students to do research in various application fields of bioinformatics and systems biology. The program aims at teaching key techniques and formalisms, while providing sufficient options for differentiation. The Master Bioinformatics and Systems Biology provides students with knowledge and understanding of complex cellular organizations. The Bioinformatics and Systems Biology Master also seeks to teach students the technical skills of programming, algorithm design, data storage and search protocols, and modelling, but all applied to the solution of biological and genomic problems, in some courses linked to practical laboratory work. The training also aims to promote understanding of the social responsibilities associated with the sciences.

### *2. Objectives of the program*

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

1. has gained solid academic knowledge and understanding in the field of bioinformatics and systems biology (including bioinformatics and computer issues and the necessary background knowledge of other disciplines such as molecular biology, biophysics and genomics);
2. has acquired profound knowledge, insight and practical experience in at least one specialist area of bioinformatics or systems biology;
3. is able to quickly acquire specialist knowledge, understanding and skills in other areas of bioinformatics and systems biology;
4. is able to evaluate his or her performance, both in reflection and discussion with others;
5. has developed practical skills in a relevant area of bioinformatics and systems biology at university level, including laboratory and / or safety procedures where appropriate;
6. has a view of the applications of bioinformatics and systems biology in general and specific specializations in particular and is able to apply the acquired knowledge and skills in new and unfamiliar problems;
7. is capable of writing research or project plans on the basis of realistic problem descriptions in the field of bioinformatics and systems biology;
8. is able to access and use international professional literature in the relevant sub-domain of bioinformatics and systems biology;
9. is able to analyze, evaluate scientific results and make inferences based on them, and report this in laboratory notebook, written report and oral presentation;
10. is able to function in professional positions, where scientific knowledge and skills in bioinformatics and systems biology on an academic level are required;
11. has developed a critical, scientific attitude towards social and ethical aspects of bioinformatics and systems biology and related disciplines (eg genomics);
12. is able to communicate with others in the bioinformatics and systems biology disciplines, as

well other disciplines, at a professional level and to deliver clear oral and written presentations on the research;

13. is well prepared for university education at the level of a promotion or for further postgraduate education as a professional in the field of bioinformatics and systems biology.

#### *Artikel 4 Full-time/part-time*

The program is available only in full-time.

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

#### *Artikel 6 Training Requirements*

1. Admittable to the program is the holder of a certificate of authorization issued by or on behalf of the faculty board, due to he has proven to meet the eligibility requirements of knowledge, understanding and skills in the final level of the scientific undergraduate (bachelor) degree

2. Training 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 the sufficient knowledge is obtained by in the fields of biology, mathematics and/or programming, at the discretion of the examination board (Examencommissie).
- English at VWO final examination 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 upon request be granted admission to the Master's programme, insofar as failure to grant admission would result in undue unfairness<sup>1</sup>.

4. The certificate of admission only appertains to the academic year following the academic year in which the application for that certificate is filed, unless the University Board (college van bestuur) decides otherwise.

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<sup>1</sup> Dit is de zogeheten harde knip. Deze geldt alleen niet als CvB (FB) van oordeel is dat het achterwege laten van de inschrijving leidt tot een onbillijkheid van overwegende aard. Daarover wordt in de MvT van de wet opgemerkt dat het dan bijvoorbeeld gaat om individuele, persoonlijke omstandigheden van de student, die bijzonder en niet te voorzien zijn geweest. Daarnaast is toelating acceptabel als de betrokken student aan de inhoudelijke instroomeisen voldoet, 'maar een aantal ECTS-punten (d)at niet kritisch wordt geacht voor het studiesucces in de masterfase, nog niet heeft behaald.' Hetzelfde geldt voor de excellente student die onnodig moet wachten op een volgende instroommoment

#### *Artikel 7 Admission procedure*

- The coordinator of the master program has an intake interview with students who register for the relevant Master. In the interview, also the admission requirements will be addressed.
- In consultation with the coordinator of the master program, the specifics of the curriculum (core and optional subjects) will be determined. This applies to all graduate programs.
- The agreement between the coordinator of the master and the prospective student will be recorded in a study plan. This includes how any backlog or deficiencies will be corrected. A copy of the study plan will be sent to the examination board (Examencommissie) and study advisor.
- The examination committee decides on admission of students. The coordinator monitors the academic progress of students admitted.

### **Paragraaf 3. Composition of the program**

#### *Artikel 10 Arrangement of the education*

1. The program includes parts as defined in Appendix I of this Education and Examination agreement (Onderwijs- en examenregeling).
2. As an exception to paragraph 1 under certain circumstances and with prior approval of the Examination, students may choose a free master.
3. The program has a study load of 120 credits, where one study point equals one EC = 28 hours of study.

#### *Artikel 34 Inwerkingtreding*

Deze regeling treedt in werking op 1 september 2013.

Advies Opleidingscommissie, d.d.

Instemming GV, d.d. 27 augustus 2013

Aldus vastgesteld door het bestuur van de Faculteit der Exacte Wetenschappen

Op 19 augustus 2013

### **Appendices**

*I. Curriculum*

*[Artikel 1 Programma's]*

*Artikel 2 Samenstelling programma's*

*[Artikel 3 Keuzeonderdelen]*

*[Artikel 4 Practica]*

*[II. Samenstelling programma's/afstudeerrichting/specialisatie]*

*III. Volgorde tentamens*

*[IV. Overgangsregeling(en)]*