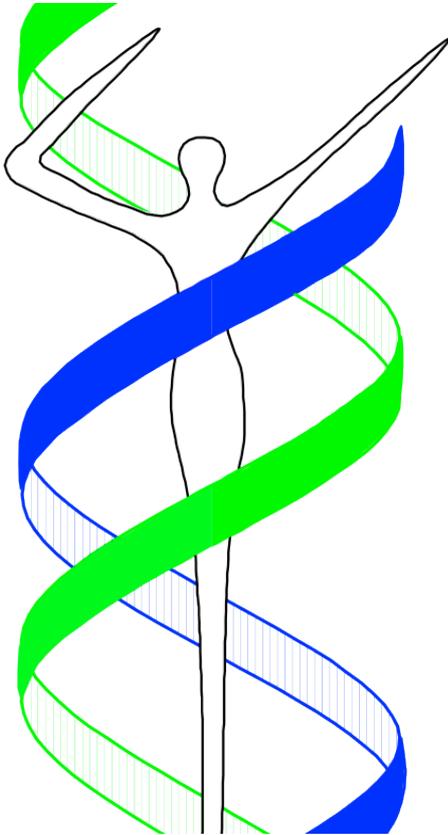


Teaching Program of Biomedical Sciences



*For PhD students of
Biomedical Sciences
at Erasmus MC*

Edition November 2019

PhD Teaching Program Committee

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Note: For readability only the male nouns were employed in this text. When applicable, please, read she/her instead of he/his.

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Overview of the Biomedical Sciences PhD program

The *Biomedical Sciences PhD program* coordinates the PhD education of six departments (Cell Biology, Molecular Genetics, Clinical Genetics, Developmental Biology, Genetic Identification, Biochemistry) and two institutes (Biomics and Optical Imaging Center) at Erasmus MC. It is tightly connected to the Graduate School MGC South West Netherlands (shortly: MGC). Its goal is to help PhD students at Erasmus MC to become skilled, critical and independent researchers, which is considered the most important criterion for receiving a PhD degree. Progress towards achieving this goal is mainly monitored by the supervisors and (co)promotor of the department, in consultation with a coaching committee (see below). The PhD research project should eventually culminate in (first author) paper(s) and a well written thesis that reflects the high quality of the PhD work that was done.

The requirements, courses, and modules of the *Biomedical Sciences PhD program* are aimed at improving education and training of PhD students at Erasmus MC so that they achieve the main goal described above. In addition, the *Biomedical Sciences PhD program* incorporates obligatory courses, some of which are from the Erasmus MC. In addition, we adhere to the Erasmus MC recommendation that an average of 30 EC points could be obtained by the student at the end of the PhD. Students can obtain EC points for courses, lectures, meetings and teaching.

Participation in the *Biomedical Sciences PhD program* is in principle mandatory for all PhD students working in one of the participating departments/institutes. As stated above, there are some obligatory (see pages 5, 6) parts to the program, but the vast majority is non-obligatory (see page 7). The student is free to compile his own individual program as far as the non-compulsory part is concerned, of course in consultation with his supervisor. PhD students should list the courses and lectures in a portfolio as part of their CV at the end of their thesis.

A Training and Supervision Plan (TSP), that describes the research project of the PhD, as well as tasks, obligations, and supervision issues, courses/seminars to be followed, and progress during the PhD, should be drawn up by the PhD student together with the supervisor(s) and promotor at the start of the PhD. The TSP is discussed with supervisor(s) and promotor at the onset of the PhD. At this point all rules and regulations with respect to the PhD research project and the obligatory and non-obligatory parts of the PhD program are explained. The TSP is registered on a form, and is regularly updated during the PhD. It must be uploaded in the Hora Finita PhD registration system. In agreement with the TSP, students register for courses and seminars that they find interesting. Registration is usually done through the websites of either the MGC or MolMed postgraduate schools (note that interesting PhD courses offered by other postgraduate schools or similar organizations can, in principle, also be followed). However, courses given by the MolMed school (or other organizations) are often not for free (for some MolMed courses there is a fee on a discount basis).

Coaching of PhD students

It is considered of great importance that PhD students function optimally, and consequently, we want to ensure that their research projects come to fruition within the set time limits. To reach this goal, a coaching committee (“begeleidingscommissie”) will be formed for each PhD student, consisting of 2 scientists that are familiar with the field of research of the student’s project. These scientists are invited by the PhD student and daily supervisor, and can be from inside or outside the institutes. Thus, the PhD student has a say in the choice of members of the coaching group. There will be no relationship between membership of the coaching group and that of the promotion or opposition committees which are normally formed at the end of the PhD project. Ideally, a coaching group should have been formed 6 months after the start of the appointment of the PhD student.

First year of the PhD

The first year of the PhD contains important evaluation moments, and it is highly recommended that most of the obligatory courses are done in the first year too.

Evaluation meetings. The PhD student and his supervisor have evaluation meetings ('beoordelingsgesprekken') after 6, 9, and 12 months to discuss the development of the research project and progress of the PhD student. Evaluations include the performance in the mandatory PhD program. Forms of these meetings have to be uploaded in the Hora Finita system. In cases where the PhD student has not fulfilled all of the obligations the PhD contract may be continued but can become a 'voorwaardelijk dienstverband' (conditional appointment).

1st year presentation. At the end of the first year the PhD student presents the progress of the project as well as the future plans to the supervisor(s) and coaching group. It is recommended that the courses / seminar choices are also presented. Based on the presentation, scientific progress, and performance in courses, the coaching group will make a recommendation about the continuation of the PhD. Thus, this serves as an important evaluation moment of the PhD student. Evaluation is formalized by the head of the department.

Problems during the PhD and feedback

In case of problems, for example between the PhD student and the supervisor, the PhD student can consult a 'confidante', a person who will regard all information received from the PhD student as confidential and who will act in the best interest of the PhD student only. We have several persons from different participating departments/institutes acting as 'confidante' (see below). The PhD student is free to go to any of the 'confidantes' to ask for assistance. The confidante in turn can seek contact with the PhD student, coaching group, or the daily supervisor when necessary. This division of tasks ensures that coaching groups and confidantes not only evaluate and help the PhD student, but also monitor guidance by (new) supervisors. This information is used to optimise future guidance.

Confidantes

Willy Baarends
Ralph Stadhouders
Vincenzo Bonifati
Jeroen Essers
Niels Galjart

Developmental Biology
Pulmonary Medicine/Cell Biology
Clinical Genetics
Molecular Genetics
Cell Biology

Overview of mandatory part of PhD program

(exemptions are possible in individual cases for 2.2, 2.3, 2.4, 2.8)

1 Biomedical Sciences PhD tasks

Year	Course/task and approximate period	Explanation on page	EC points
1	End of year 1 : presentation of 1 st year results and future plans to supervisor and coaching group (see page 3 for explanation)	4	1
2 - 3	- Teaching PhD students can develop teaching skills, for example by guiding BSc or MSc students.		Variable

2 MGC and Erasmus MC PhD courses

2.1 Safe Laboratory Techniques (“Veilig werken in Laboratoria”)

A 'one day' course that is intended to refresh the memory and to supplement courses that may have been followed earlier. The following points will be addressed: safe microbiological techniques; radionuclides; carcinogenic agents; blood, viruses; radiation. This course has to be taken in the first year. The course is given twice a year, and is in English. The course is given in collaboration with the Department VGM of the LUMC. Apply through the MGC website: <http://medgencentre.com/Home/>

2.2 Working with Test Animals (“Proefdierkunde”)

Intended for those PhD students that will work with test animals in vivo. The Medical Faculties of Leiden and Rotterdam are offering a course with official recognition. Apply to the LUMC in Leiden: PDC-LUMC/Cursuspdk@lumc.nl or the faculty in Rotterdam http://intranet.erasmusmc.nl/edc/course_ias/?lang=en Information and registration: edc.art9course@erasmusmc.nl

2.3 Biomedical English Writing and Communication

This course has two main objectives: (a) to provide practical guidelines for writing well-structured and fully readable biomedical articles and (b) to provide a framework for effective oral presentations. Apply to the Faculty in Leiden (for more information see <http://hum.leiden.edu/languagecentre/english/academic-english.html>) or in Rotterdam <http://intranet.erasmusmc.nl/onderzoeksbeleid/carriere/phdprogram/coursesintra/english/?lang=en>, e-mail to m.bringel@erasmusmc.nl. Students from Rotterdam should ideally do this course in their 2nd year, so that they have enough data to complete an article by the time the course ends. Although it is strongly recommended that PhD students follow this course, Erasmus MC only has ~60 places available per year. Thus, at this moment it is not possible for all students to follow the course. The supervisor(s)/promotor should decide whether a student should follow the course in the 3rd or 4th year.

2.4 **Statistics**

We consider a basic course on statistics very important for PhD students, since many research approaches in biomedical sciences rely heavily on statistics. We recommend students to follow the basic statistics course in your second year. It lasts one week and is given in the spring. See

<http://intranet.erasmusmc.nl/onderzoeksbeleid/carriere/phdprogram/coursesintra/statistiek2012/>

NIHES course CC02 https://www.nihes.com/course/cc02_biostatistical_methods_i_basic_principles/

Registration via: <https://www.nihes.com/application-admission/how-to-apply/>

Although this basic course is highly recommended, we are aware of the fact that many PhD students have already taken courses in statistics during their undergraduate studies. If students can provide evidence that they have followed equivalent courses earlier on, they can ask for an exemption of the basic statistics PhD course. In that case we recommend that the PhD student follows an advanced statistics course.

2.5 **Integrity in Science**

Starting January 2014 the Department of Medical Ethics and Philosophy will organise a one-day course 'Integrity in Science'. The course is obligatory for all PhD students. We recommend you to follow the course in your second year.

Science is a competitive field. There is a lot at stake, reputations, careers, money. The downside is that there is a lot of pressure and this may lead to disputes on authorships, data massage, incomplete informed consent, and etcetera. When is a researcher a person of integrity? And is it possible to combine integrity with a successful scientific career?

During this course we will share information on rules and regulations within the Erasmus MC, exchange experiences, analyse cases and discuss ethical dilemmas, but will also look at possible solutions and support.

See http://www.erasmusmc.nl/ethiek_filosofie_geneeskunde/onderwijs/wetenschappelijke-integriteit/?lang=en for detailed information and registration.

2.6 **MGC Promovendi workshop**

PhD students of the MGC will present their work to each other followed by discussions. The format is a yearly four-day meeting outside town. These workshops generally take place in spring. Further information will appear on the MGC website. PhD students will also receive a personal invitation. They should attend at least three workshops.

<http://medgencentre.com/Home/>

2.7 **Work and literature discussions**

These are activities within the own Institutes.

2.8 **Visits to congresses**

It is strongly recommended that each PhD student visits one or more international congresses during his PhD study. The PhD student has to consult his supervisor as needed.

Overview of optional courses

This is a flexible program that can change on a yearly basis depending on scientific developments. Courses may last from 1 day up to 2 weeks and most are held once a year. There are no formal examinations, but students wishing to attend are obliged to be present in all classes ('aanwezigheidsplicht'). On top of the attendance of lectures and demonstrations, the courses may demand an amount of self-study, such that the time needed per course will be exceeded.

The courses are announced on the websites of MGC <http://medgencentre.com/Home/> and MolMed <https://www.molmed.nl/>

OIC Imaging course:

Organised by the Erasmus Optical Imaging Centre (for participation see <http://www6.erasmusmc.nl/oic/>)

Important and/or handy website links

Rotterdam pages

PhD registration system 'Hora Finita':

Download the manual through

<https://www.eur.nl/en/research/phd-eur/practical-information/hora-finita-and-your-phd>

and if you still have questions about the system you can send an e-mail to horafinita@erasmusmc.nl

Doctoral Regulations:

<https://www.eur.nl/en/research/beadles-office/phd-defence-ceremonies/doctoral-regulations>

PhD education in Rotterdam:

<https://stip.erasmusmc.nl/PhdCandidates/Menu>

<http://intranet.erasmusmc.nl/onderzoeksbeleid/carriere/phdprogram/?lang=en>

<http://intranet.erasmusmc.nl/onderzoeksbeleid/carriere/phdprogram/coursesintra/?lang=en>

PhD portfolio at Erasmus MC:

<http://intranet.erasmusmc.nl/onderzoeksbeleid/carriere/phdprogram/PhDbrochure2014.pdf?lang=en&view=active>

Overview of PhD program and its courses:

<http://www6.erasmusmc.nl/biomedicalsciences/education/PhD/>

General overview Biostatistics and Research Methods:

<http://intranet.erasmusmc.nl/onderzoeksbeleid/carriere/phdprogram/coursesintra/statistiek2012/>

NIHES course CC02 https://www.nihes.com/course/cc02_biostatistical_methods_i_basic_principles/

Registration via: <https://www.nihes.com/application-admission/how-to-apply/>

Integrity in Science:

<http://intranet.erasmusmc.nl/onderzoeksbeleid/wi/?lang=en>

See http://www.erasmusmc.nl/ethiek_filosofie_geneeskunde/onderwijs/wetenschappelijke-integriteit/?lang=en for detailed course information and registration.

Overview of how to calculate EC points, and of EC points given for the courses organized by MolMed postgraduate school:

<http://www.molmed.nl/images/Richtlijnen%20PhD%20traject%20MolMed%20Appendix%204.pdf>

Gratification researchers in training (€ 750,-- bonus for OIOs):

<http://intranet.erasmusmc.nl/graduateschool-foreignservices/fin-regelingen/OIObonus/>

Allowance for printing costs EUR thesis:

<http://intranet.erasmusmc.nl/onderzoeksbeleid/carriere/phdprogram/4959731/>

Available PhD positions:

<https://www.werkenbijerasmusmc.nl/en/vacancies>

Rotterdam/Leiden pages

MolMed postgraduate school:

www.molmed.nl

MGC postgraduate school:

<http://medgencentre.com/Home/>

Medical Faculty Leiden:

<https://www.lumc.nl/?setlanguage=English&setcountry=en>