

NFU Guidelines for PhD tracks in biomedical sciences in the Netherlands

Joint guidelines of the Graduate Schools of the Dutch University Medical Centres (UMCs) on the PhD thesis, the PhD project, and the education of PhD students

Together, the eight Dutch UMCs together deliver more than 1,000 successfully defended PhD theses each year, perceived to be of high scientific quality according to international standards. The importance of maintaining and consolidating this position is obvious and the UMC Graduate Schools have decided to collaborate to achieve this.

The Organisation of PhD Education in Biomedicine and Health Sciences in the European System (ORPHEUS) has developed guidelines for European medical and biomedical PhD tracks since 2004. In 2009, ORPHEUS published a Position Paper, titled 'Towards Standards for PhD Education in Biomedicine and Health Sciences'. Several UMC Graduate Schools are members of ORPHEUS.

The Dutch UMC Medical Schools have developed guidelines, inspired by the process in Orpheus. The recommendations are explicitly presented as guidelines. Substantiated deviation from the guidelines is possible, and the autonomy of the UMCs and the existing diversity amongst the Graduate Schools must be respected. The UMC believe that these guidelines can contribute to the development and harmonisation of explicit quality standards for the doctorate level academic education, to the benefit of present and future PhD students, PhD supervisors and Graduate Schools.

The deans of the UMCs agreed on the resulting 'NFU guidelines for PhD tracks' in their meeting on October 15, 2011. The NFU 'Guidelines for PhD tracks' will be revised and updated every three years, in order to keep track with international developments and changes.

Below, the NFU guidelines are presented, and compared to the ORPHEUS standards.

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Guideline for the number of papers in a PhD thesis

An approved manuscript contains at least 3 to 5 papers, of which 2 to 3 are published or accepted with the PhD student as first author, and of which at least 2 are or will be published in journals with a medium to high impact factor in the research field of the discipline.

Comment: The final approval of a PhD thesis is an individual decision of the doctoral committee. The current guideline intends to provide a lower limit, taking into account the diversity between UMCs and disciplines. It also provides an indication for what is considered reasonable and helps to prevent unintended inflation of the requirements for a PhD thesis.

ORPHEUS: "..., it is recommended that the benchmark for a PhD thesis in biomedicine and health sciences should be the equivalent of three in extenso peer-reviewed papers published in internationally recognised journals."

The UMC Graduate Schools further accentuate this guideline.

Guideline for the length of a PhD track

The length of a PhD track equals 3-4 years of full time research work.

Comment: A standard research trainee ('Oio') employment of 4 years serves as a model for the PhD track duration. The national and international tendency to reduce the PhD track to three years, with a preparation year in a research master, is not generally approved by the Dutch UMCs. On the other hand, the UMCs also do not favour an extension of the PhD track duration. A tenure track application should be separated from the PhD track.

The requirements for clinical and preclinical PhD tracks are similar, although a clinical PhD track might be combined with medical specialist training. Assuming that a PhD student performs other tasks as well, the equivalent of 3-4 years of research work plus doctoral education is the basic principle for all PhD tracks.

ORPHEUS: "PhD programmes normally have a duration of 3-4 years full time commitment."

Guideline for the training of PhD students

The doctorate level academic training programme equals 20 to 30 EC (ECTS) and may consist of acquiring specific academic (discipline specific) skills, general scientific skills and transferrable skills, as well as attending scientific conferences, seminars and master classes, participation in retreats and journal clubs, and other activities contributing to the doctorate level academic education of PhD students as highly qualified future researchers and professionals in an international context.

Comment: A legal outline plan for PhD students' education does not exist. Doctoral education is mainly training-on-the-job. Next to this, all Graduate Schools offer a PhD course programme.

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The current guideline offers an indication for the scope and extent of the doctorate level academic education programme.

ORPHEUS: "It is recommended that the course programme is formalised and limited to about 6 months (~30 ECTS-points) of the total PhD programme."

The UMC Graduate Schools accept a more flexible guideline of 20-30 EC. With respect to the content of the PhD education, the UMC guidelines agree with ORPHEUS.

Guideline for propositions added to the PhD thesis

Propositions should be added to the PhD thesis. This expression of academic intellect is viewed as the key stone of the PhD track.

Comment: The current guideline expresses a strong preference for adding propositions to the PhD thesis. Depending of the specific University's Doctorate Regulations, a PhD student may be compelled to add propositions to the PhD thesis.

ORPHEUS has no guideline on this subject.

Guideline for including the portfolio in PhD thesis

All PhD courses followed and other activities that form part of the education should be included in the PhD thesis, with the competences achieved.

Comment: Since the status and content of the doctoral level academic education are not generally established in rules, it is important to display the PhD student's education. Including the portfolio in the PhD thesis will give doctoral education a more prominent role in the PhD track. The PhD student and the PhD supervisor together are responsible for displaying the portfolio correctly.

ORPHEUS has no guideline on this subject.

Generic final achievement standards for a doctorate

The final achievement standards for a doctorate are adopted from the VSNU Position Paper 'Honest!' (2004).

- The successful candidate has made an original contribution to academic research of a quality which in stands up to peer review at the level usual in the Netherlands;
- The successful candidate has demonstrated their ability to apply the academic methods used in the discipline concerned for developing, interpreting and putting into practice new knowledge;

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- The successful candidate has acquired and worked with a substantial body of knowledge which, at the very least, embraces the principles and methods of international academic practice and of theorisation, methodology and study in the discipline concerned;
- The successful candidate possesses the ability to design and implement a substantial project for the purpose of developing new knowledge;
- The successful candidate is able to communicate knowledge and methods pertaining to their discipline or specialism in an effective way;
- The successful candidate is able to exercise social responsibility in conducting, applying and making use of their own research.

We added another final achievement standard for biomedical PhD tracks.

- The successful candidate communicates his research and its results through publications in internationally recognised, peer reviewed journals.

Comment: Doctorate graduation is the third phase and finalization of academic education. The PhD thesis is the legally required test of a successful development into an independent academic researcher. The generic final achievement standards specify in more detail the required level of doctorate graduation and clarify expectations. Academic uniformity is ensured by adopting the VSNU standards.

The VSNU standards do not mention any requirements about publications. In the field of biomedical research, it is common practice to publish research in journals. For sake of clarity, we added this standard.

ORPHEUS has no guideline on this subject.

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