

# Supplementary guidelines for the Doctor of Philosophy degree (PhD) in Biosciences pursuant to the Regulations regarding the philosophiae doctor (PhD) degree at Nord University

**These supplementary guidelines have been set out pursuant to the Regulations for the Doctor of Philosophy degree (PhD) at Nord University of 22 June 2022. The supplementary guidelines were approved by the Faculty of Biosciences and Aquaculture (FBA) 25 May 2023.**

*The Regulations for the Doctor of Philosophy degree (PhD) at Nord University is from here on referred to as the Regulations.*

## **Section 1 of the Regulations: Scope of the Regulations**

The supplementary guidelines by the Faculty of Biosciences and Aquaculture apply to all education culminating in the Doctor of Philosophy degree (PhD) in Biosciences.

## **Section 3-1 of the Regulations: Objective, scope and content**

The PhD in Biosciences includes required coursework comprising 30 credits (ECTS) (see also section 9-1).

## **Section 4 of the Regulations: Responsibility for doctoral education**

The Faculty of Biosciences and Aquaculture is responsible for the PhD programme in Biosciences. The Research Board at the faculty is the responsible body for coordinating the activities and maintaining the quality of the programme, and advising the Dean on matters related to the PhD programme.

## **Section 6-1 of the Regulations: Admission criteria**

Applicants to the PhD programme in Biosciences must hold a master's degree in biosciences or biosciences-related disciplines, which is relevant to the theme of the proposed research project.

Industry and public funded candidates can apply for admission, provided they have the necessary qualifications. International self-financed students are normally not accepted, but applicants with documented funding from governmental or non-governmental bodies will be considered for admission. Such candidates should contact the faculty's PhD administration for further information regarding their eligibility for admission.

## **Section 6-2 of the Regulations: Admission application requirements**

The PhD research proposal, which has to be submitted along with the application for admission, should be aligned to one of the strategic thematic research areas of the faculty. The proposal\* should be prepared in the document template provided by the faculty, adhering to the guidelines for preparation of the proposal.

Incomplete applications will not be approved and must be revised within 30 days after the candidate has been informed by the PhD administration.

Major amendments to the application/proposal should be submitted to the PhD administration, which will then be presented as a case to the Research Board for approval.

#### **Section 6-4 of the Regulations: Admission decision**

Completed applications will be forwarded to the faculty's Research Board, which evaluates and advises the Dean whether or not to admit the applicant to the PhD programme.

#### **Section 8-1 of the Regulations: Appointment of academic supervisors**

A PhD supervisory committee should preferably consist of three members employed at the faculty, including one main supervisor and two co-supervisors. The main supervisor should be linked to one of the research divisions at the faculty, and be an expert in the topic of the research project. The candidate should ideally have an external supervisor.

In cases where the faculty has an agreement with external research institutions, the main supervisor can be from those institutions, along with at least one co-supervisor from the faculty.

Industry-financed PhD projects have to comply with the Regulations from the Research Council of Norway, if this industrial partner provides part of the financing. In cases where third parties collaborate in a PhD research project (e.g. in the case of industry-financed PhDs), the concerned principal investigator (PI) of the third party can serve as a co-supervisor, provided he/she has a doctoral degree. If the PI is not entitled to be a supervisor, the faculty's Research Board can suggest an alternate supervisor after consulting with the PI.

#### **Section 8-2 of the Regulations: Content of the supervision**

The supervisory committee (minimum two members) should meet with the student formally at least twice a year, ahead of the deadlines for submission of the half-yearly candidate performance review (CPR) (see section 10-1 of the Regulations). The meetings should address issues related to project operations, training components and supervision.

#### **Section 9-1 of the Regulations: Purpose, content and scope**

The Faculty of Biosciences and Aquaculture is responsible for the approval of all credit-earning courses as part of the candidate's training component within the PhD programme. The training component together with the work on the thesis shall provide a holistic education at an adequate level as described in the learning outcomes of the PhD programme. The individual elements comprising the training component are to be agreed upon by the main supervisor.

On completion of the training component, the candidate has to apply to the faculty for its approval\*. The approval must be obtained prior to submitting the thesis for evaluation, preferably by month 30 of the PhD programme.

#### **Course requirements**

The training component of the doctoral programme includes participation in courses in natural sciences or in other topics relevant to the candidate's research theme. The candidate is expected to gain 30 ECTS - 10 ECTS from compulsory courses and 20 ECTS from elective courses. At least 10 ECTS

should be gained from courses conducted at Nord University.

Compulsory courses (10 ECTS):

- Science and Ethics in Practice (DR433F, 5 ECTS) and
- Frontier Topic in Bioscience: a course at PhD level (5 ECTS) related directly to the subject area of the thesis (Nord University or external). This course should be defined in the application for admission to the programme.

The course Principles in Animal Experimentation (offered at Nord or other similar courses from Norwegian/external institutions) cannot be considered as the compulsory course under the Frontier Topic in Bioscience. No more than 5 ECTS will be approved for courses in animal experimentation.

Elective courses (20 ECTS):

Students can, in consultation with the main supervisor, choose elective courses at PhD or master's level. At least 20 of the total 30 ECTS must be earned from PhD-level courses. The candidate must have obtained grade B or better (as per Nord University's grading scale) if the credits from master's level are to be included as an elective course in the training component. The same is also applicable for PhD level courses where A-F grading is adopted.

Candidates also have the option to choose the *Individual Special Curriculum* course at doctoral level (DR435F, 5 ECTS), which allows them to gain in-depth knowledge on a specific topic relevant to their research work. The content of this course has to be approved by the faculty\*.

PhD courses conducted at other universities in Norway/worldwide can also be chosen as electives.

Uncategorized academic activities (UAAs): UAAs are activities such as courses /workshops/seminars etc. offered by institutions that are not accredited higher education institutions. No more than 5ECTS can be gained from these activities. Special requirements need to be fulfilled for approval of these activities, as they lack defined learning outcomes and a proper assessment format\*. Short academic activities (< 25 hours) will not be approved and cannot be combined. General skill-based courses are also considered as an UAA, and no more than 2 ECTS can be gained from such courses .

The faculty reserves the right to calculate the scope (credits) of courses regardless of the credits awarded by the external institution.

### **Presentations**

The candidate must hold five presentations during the nominal study period. The presentations must be publicly announced and be open to anyone intending to attend. The candidate and main supervisor are equally responsible for ensuring that the presentations are completed within the stipulated time frame. All five presentations ought to be unique in content and cannot be re-used.

Internal oral presentations:

- Presentation 1: This presentation should be given within the first six months from the date of employment and must include background information, up-to-date scientific knowledge on the topic of the thesis, the proposed research plan and the expected contribution that would advance the current state of knowledge within the research field.
- Presentation 2: This presentation is normally conducted in conjunction with the candidate's midterm evaluation (see section 10-2) and shall be given at the 18<sup>th</sup> month after the start of

the employment in the three-year PhD programme. The candidate shall present the results obtained during the first half period of the PhD programme, highlight the research advances and indicate a plan for the remaining part of the study period.

Both presentations should normally be for 30 minutes and must be followed by a critical discussion. For quality assurance purposes the main supervisor/co-supervisor must participate to evaluate the presentation and submit an approval to the PhD administration. For midterm evaluations an independent faculty member attends in addition to the main supervisor, and the former presents the report to the PhD administration. It is the responsibility of the student to contact the academic staff mentioned above and confirm their availability before scheduling the respective presentations.

External/internal presentations:

- Presentation 3 and 4: During the PhD term, the candidate is expected to make at least two external presentations - either an oral presentation or a poster – at a national/international conference. The candidate should be the first and the presenting author of these presentations. The candidate should be responsible for preparing and submitting the abstract.
- Presentation 5: An additional presentation is to be made – an internal oral presentation or an external presentation, in a format approved by the main supervisor and the study programme coordinator.

Of presentations 3, 4 and 5 listed above, at least one should be a public oral presentation. The candidates are encouraged to present their results either to the industry or at other open forums, highlighting the contribution of their research to the society.

### **Section 9-3 of the Regulations: The candidate's leave of absence rights**

Candidates who have an external employer are obliged to inform the faculty's PhD administration as well as the primary supervisor about his/her leave of absence.

### **Section 10-1 of the Regulations: Reporting**

The faculty requires the candidates to submit semester reports twice a year (candidate performance review, CPR\*) that are prepared in consultation with the supervisory committee. The document should contain a realistic progress plan (see section 8-2 of the Regulations).

The progress report shall be submitted no later than 1 June and 1 December every year. This applies to all candidates who have completed at least 6 months from the starting date. The reports are presented to the faculty's Research Board for approval. The preparation and submission of progress reports are an integral and mandatory part of the candidate's doctoral education during the entire course of study/registration in the programme. Failure to submit a progress report may result in forced termination of the candidate before the end of the agreement/study period (see section 7-4 of the Regulations).

### **Section 10-2 of the Regulations: Midway evaluation**

The midterm evaluation aims to encourage candidates to complete their research work/thesis within the study period stipulated in the PhD agreement. This can be conducted in conjunction with the candidate's second internal presentation (see section 9-1) and normally takes place 18 months after

the start date of employment. A report\* of the midterm evaluation has to be filled out by the supervisor and submitted to the PhD administration. Please see the designated guidelines for more detailed information about the procedures of the midterm evaluation.

#### **Section 11-1 of the Regulations: Thesis requirements**

The thesis can be delivered either in the form of a monograph, or as a unified set of several research papers with a common introductory chapter and a general discussion. The general discussion must summarise the most important results and conclusions of the PhD project, compare and discuss the present findings in light of the existing knowledge, and clearly state the contribution of the thesis in advancing the state of the art in the field of biosciences.

A PhD thesis at FBA is normally based on at least three original scientific articles/manuscripts. One of the research papers, with the student as the first author, must be published or accepted for publication in a reputed peer-reviewed international journal in the particular area of the PhD research. If under exceptional circumstance a candidate is unable to have a published or accepted research paper at the time of submission of his/her thesis, the candidate can apply to the Research Board for a waiver of this clause. The application must be supported by a memorandum from the main supervisor, supporting the candidate's request and vouching for the quality of the particular manuscript. At least two more manuscripts of publishable standard are to be included in the thesis and the PhD candidate should be the first author in at least one of these articles.

In special cases, a review paper may be an accepted format as long as sufficient amount of original research work is covered in the other two papers included in the thesis.

The candidate will be responsible for obtaining copyright permission(s) from the publisher to include the articles in the thesis if these articles are not published / or intended to be published under the Open Access agreement. In the case of unpublished manuscripts, the candidate should indicate the journal where the article is likely to be published, besides stating that the manuscript was published as part of his/her PhD thesis.

The thesis is to be written in English. If the candidate wishes to use another language, special permission must be sought at the time of admission to the programme. The formatting guidelines for the thesis provided by the PhD administration at the faculty should be adopted.

#### **Section 13-2 of the Regulations: Application for assessment of the thesis**

The candidate should submit 3 (three) printed copies and a PDF file of the thesis, along with the application for examination of thesis\* and other required documents. The candidate is obliged to follow the instructions from the PhD administration on formalities related to the submission of the thesis.

The time from submission of the thesis to public defence is normally not less than 3 months and does not exceed 5 months.

#### **Section 14 of the Regulations: Appointment of the assessment committee**

The leader of the evaluation committee shall be an appointee from the faculty.

#### **Section 15-2 of the Regulations: Correction of formal errors in the thesis**

In cases where the candidate may wish to report an errata to the committee after the submission of

his/her thesis, the information is to be forwarded to the PhD administration for onward transmission to the evaluation committee. Such information, if any, should be made available within 14 days prior to the committee's deadline for the delivery of their report. This communication to the committee must be routed through the PhD administration.

**Section 18-1 of the Regulations: Trial lecture**

At the Faculty of Biosciences and Aquaculture the trial lecture is held on the same day, ahead of the public defence of the PhD thesis (section 18-2).

**Section 18-2 of the Regulations: Public defence of the thesis (disputation)**

The public defence is chaired by the Dean of the Faculty of Biosciences and Aquaculture or in his/her absence normally by the Pro Dean.

It is the responsibility of the internal member of the committee, in consultation with the Dean to ensure a back-up plan, in case any one of the external members is unable to participate in person.

\* Please use the designated form