



PhD theses at LANDSAM

Guidelines for the assessment of the thesis

Approved by the research committee at LANDSAM 20.05.2020

The aim of the guidelines presented below is to formulate evaluation criteria for assessing a PhD thesis. The main target group is evaluation committees.

These guidelines are based on national guidelines for the evaluation of candidates for the Norwegian scientific degree of philosophia doctor (PhD) (UHR 2018¹), and *Regulations for the degree of Philosophia Doctor at the Norwegian University of Life Sciences* (NMBU 2020). The national and institutional guidelines are general and include requirements for evaluation-committees in addition to criteria for evaluating the PhD thesis. The guidelines presented here provide more detailed and specific requirements pertaining to PhD theses submitted at LANDSAM.

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¹ <https://www.uhr.no/f/p1/i22fc266b-7e86-4bff-8442-e55da0ed08f3/versjon-b-i-separate-retningslinjer-vitenskapelig-Ph.d..pdf>

Types of PhDs at LANDSAM

Within the general category of *scientific PhD* LANDSAM accepts two main types of PhD theses:

- research PhDs and
- research-by-design PhD

The research PhDs can be monographs or a collection of scientific articles/papers framed by an introductory essay. If the thesis consists of several papers/articles, the introductory essay must summarise and compare the research questions and conclusions presented in the articles/papers in an overall perspective, and also document or explain the overall coherence of the thesis (cf. separate guidelines on the Introductory Essay, which is directed primarily at PhD candidates).

Research-by-design PhDs are required to include both a systematic collection of designed or other created materials and a written supplement describing the theoretical or practical background for the study, the applied working methods, and an evaluative reflection on the presented material. The main part of the scientific PhD may also consist of new product or a systematised collection of material, or it can be presented in a different way (for example, sound, images, video, electronic forms of presentation) where its theoretical and methodological basis is not apparent from the product itself. In such cases, in addition to presenting the product itself, the thesis must have an additional part. The additional part must consist of a written account of the research question, the choice of theory and methods, and an assessment of the result in relation to international standards and the academic level within the field.

For all PhDs the assessment should be based on the fact that the work dedicated specifically to the thesis corresponds to a total of 3 years of PhD studies, including 30 ECTS (approximately 6 months) of compulsory coursework.

Requirements for research PhDs at LANDSAM

General requirements

The thesis must be an independent, scientific work that fulfils international standards regarding ethical requirements, academic quality, and methodology within the scientific field (see §10-1(1)).

The thesis must contribute to the development of new scholarly knowledge and be of sufficiently high academic quality to merit publication as part of the scientific literature in the field, or in an appropriate format as part of the research-based knowledge development in the field (§10-1(2)). All manuscripts and papers included in the main part must be publishable, i.e. have the same quality as a published paper.

The aims and objectives of the research must be clearly stated in the thesis. The relevance and importance of the stated research aims/objectives should be presented on a solid background, grounded in the state-of-the art in the chosen field of research, and clear arguments for exploring new venues in inter- and/or transdisciplinary fields.

The literature review presented in the thesis (as a whole) should document that the candidate has acquired an adequate overview and sufficient in-depth knowledge of relevant research literature in the chosen field of research. The review can be based on a systematic or non-systematic search. The presentation of the literature search should be transparent; the different steps in the search strategy should be clearly documented.

Choice of methodology and research strategy should be justified with regard to the research questions. The thesis should show how these are up-to-date and – to the extent possible – optimal to answer the research questions. The candidate should discuss pros and cons of the chosen methodology and research strategy.

Empirical results should be presented according to what is expected in the PhD-candidate's research field. Results should be synthesized when possible, and the findings should be discussed in a discussion chapter/discussion sections, showing both relevance and how the results correspond to/relate to previous research. Significance and uncertainties of quantitative results must be shown.

The discussion should include a summing up of the empirical results, scientific explanations and how the results relate to previous research. The discussion should also include an in-depth analysis of sources of errors and biases and their consequences. The conclusion of the monograph/papers should include an answer to the research question(s) formulated, reflections on impact, and some thoughts about future research (needs).

The candidate must present and discuss the – choice of – theoretical perspective and analytical approach, and include the theory necessary to explore and/or support the research aims and to explain the findings presented in the papers/articles or monograph.

The thesis must include ethical reflections on relevant principles and legal requirements of research ethics, and show the steps that have been taken to meet the requirements for the candidate's research.

Finally, the thesis should clearly show that the research is performed independently and that the research is coherent in such a way that research aims/objectives, methodology, empirical findings, and discussion are linked together and well understood by the PhD candidate.

[Specific requirements for paper/article-based theses](#)

An article-based thesis should have the following components: an introductory essay, published or publishable scientific papers, and if necessary, attachments with relevant additional information.

Guidelines for the introductory essay is documented elsewhere [on the NMBU PhD website](#). The PhD candidate must be sole author of the introductory essay.

Article-based theses should include 3 papers (or more) where the PhD candidate is the first author. If more than three papers are submitted, the PhD candidate can have a less active role in a subset of articles. In these cases, the candidate should be the first author of at least 2 papers. In general, the assessment should take into account that the work time dedicated specifically to the thesis totals 2.5 years. If the thesis is written within a field of research with established traditions of single-authored publications, at least one of the papers should be single-authored by the candidate. The papers should be either publishable in or submitted to peer-reviewed journals at level 1 or level 2 in the Nordic catalogue of publication channels.

Specific requirements for monographs

In monographs, the structure in which material is presented make take several forms, depending on academic field and the nature of the material presented (narrative, statistical, archival or other documentary, etc.). Chapters may for example be organised according to historical chronology, specific themes, or a sequence in which each chapter builds on material in preceding chapters. In any case, the structure should aid the flow and the analysis presented in the thesis. It may, in some cases, be expedient to spread theory and state of knowledge across thematically or chronologically organised chapters (or “parts”) rather than lump them into separate chapters at the beginning of the thesis. Regardless of specific structure, all monographs should include the following elements:

- *Summary of the Thesis*: in Norwegian and English. Each summary should comprise 400-600 words and should identify the original scientific contribution of the thesis.
- *Introduction*: presenting the main theme of the thesis, the issues and debates the thesis engages with, its objectives, and a justification for the choice of theme.
- *Theory*: if the thesis is written within an overarching theoretical approach, that approach should be comprehensively covered at an early stage. In some cases, for example a thesis whose main objective is a critique of epistemology within a given field, or where the treatment of themes presented in a sequence requires drawing upon more than one theory, the theoretical framework may be covered sequentially in different chapters or parts.
- *Status of Knowledge*: a review – aggregate or piecemeal – of the status of relevant knowledge. Theory and status of knowledge should in all monographs be used as an aid in deriving and elaborating specific problems, research questions, and (if included) hypotheses.
- *Methodology*: all monographs should present the research strategy, the specific choices involved in arriving at this strategy, implications of strategy and specific choices with respect to the philosophy of science, and (when relevant) reflections on the author’s role as researcher. Also, when relevant, the study area should be described, as well as processes of case selection, site selection, sampling, data collection, and personal data protection. The quality of the data and possible limitations, as well as the way in which the data have been analyzed, should be discussed. Reflections on research ethics – related to research strategy, data collection, data management, and potentially

sensitive material – should be covered; and the candidate should be specific about ethical challenges faced and how they were resolved.

- *Discussion and conclusions*: must indicate the contribution of the thesis to relevant scientific field; and clarify the overarching conclusions that may be drawn from the thesis as a whole. Theoretical implications of the results should be elaborated – do the findings support certain theories, undermine others, invite modifications of existing theory, or point towards entirely new conceptualizations? Is further research required, and if so, in which areas?
- *References*: a comprehensive list of publications, documents, or other material cited in the thesis.

The candidate should be the sole author of the monograph.

Requirements for Research-by-design PhDs

The research must be significant:

- The submitted material must be a visible contribution to new knowledge, insight and experience for the field.
- The candidate must demonstrate critical insight into adequate research methods.

The submission must consist of:

- A minimum of three pieces – articles, design/artistic works, or other documented development work, which holds international standards regarding creative level and ethics within the field.

The research work must be rigorous, and comply with the following criteria:

- The result of the doctoral work must constitute a whole. The PhD candidate must make explicit the connection between the individual pieces of work that are submitted for evaluation.
- The design or artistic development work must be a central part of the submitted results. These results must be documented in a durable format.
- The results of design or artistic development work must be accompanied by a substantial verbal reflection in English or a Scandinavian language. This written supplement must make it possible for others to share the insights gained through the applied working methods as well as the meaning of the presented results: The design work must be put into context: visual, historical, critical (actualising theoretical, ethical and practical issues).
- The presentation of reflections on research ethics should be specific about ethical challenges faced (if any) and how they were resolved. When relevant, the written supplement should also include an account of how personal data protection requirements have been handled.

The Norwegian System – requirements for recommending a defence

For PhD theses submitted at a Norwegian university, the evaluation committee has three options in terms of final conclusion in its assessment of the thesis:

(a) recommends that the thesis is accepted for defence.

(b) recommends that the Faculty gives the candidate the opportunity to make a minor revision of the thesis, normally within a period of maximum three months of work. In this case the committee needs to provide an overview of the revisions that the candidate is required to make.

(c) recommends a rejection of the thesis; concluding that it is not worthy of defence.

In option (a) the committee cannot ask for any revisions. Formal but minor mistakes, such as typographical errors, should normally not be regarded as grounds for a revision unless they are persistent and abundant, and thus affect the overall quality of the thesis. Furthermore, differences in judgement or interpretation may be raised during the defence rather than providing grounds for revision. Examples may include a disagreement in terms of the merit of a particular scientific approach or nuances in the interpretation of empirical material.

The committee should choose option (b) if the committee considers the thesis to have considerable merit, but still requires revisions in order to be worthy of a public defence. Examples include a misapprehension of central theory, a misapplication of key methods, insufficient analytical merit, or partly incomprehensible language. The committee should consider that it would be possible for the candidate to complete the required revisions within a period of three months of work.

Or Option (c), if an accumulation of flaws mentioned under (b), together with unsatisfactory research design and insufficient empirical material/substantial contents, the committee may find that rejection is warranted. See also NMBU Regulations §14-2 (NMBU 2020).

The recommendation must be specified in the committee's report.

If the Faculty decides to reject a thesis based on the committee's recommendation of option (c), the candidate may submit a (substantially) revised version of the thesis only once. In this case, a revised version can be submitted at the earliest 6 months after the rejection, but no later than two years after the rejection. In order to assess the re-submitted thesis after rejection, the Faculty appoints a new evaluation committee, normally including one of the members of the original committee.