

Third-Cycle Education at the School of Engineering Sciences
KTH – Royal Institute of Technology

Thesis content

The Swedish Higher Education Ordinance (Högskoleförordningen, [HF 1993:100](#)) (cf. Appendix 2) describes the degree systems at Swedish institutions of higher learning. When it comes to skill and ability for a doctoral degree,

- the doctoral student must demonstrate with a thesis *their* ability to significantly contribute to the development of knowledge through *their* own research.

Both licentiate thesis and doctoral thesis (from here on denoted thesis) must be designed according to good scientific practice and in accordance with the general study plan for the subject. The thesis can be written either as a compilation thesis or as a monograph. The former is more common in Engineering Sciences in Sweden and is recommended at SCI, while the latter can be more suitable under certain circumstances (please consult your supervisor).

Two thesis formats

- a *compilation thesis* consists of a compilation of scientific publications/manuscripts (denoted *papers*) and a *kappa*, which is a comprehensive introduction and summary of included works. The papers that are included may be authored by the individual doctoral student or in collaboration with others. If a paper has several authors, the contribution of all authors must be stated in a separate chapter of the thesis and with the consent of all authors. See “Division of work between authors”.
- a *monograph* is a relatively extensive scientific writing. If some parts have been published prior to the printing of the thesis, that work should be referenced as in all scientific writing.

Language

The thesis should be written in English with a thesis title and a thesis summary written both in Swedish and in English. The Swedish title and summary must be language-checked. It cannot solely be translated using a translation engine. In individual cases, the director of third-cycle education at SCI can decide whether the thesis should be written in another language than English.

Acknowledge sources

The kappa or monograph must be the doctoral student’s own original work and should not contain extensive reproduction of extracts from the appended papers if there are multiple authors. Failing to acknowledge sources when quoting from the work of others constitutes plagiarism.

Political statements

Please note that it is not allowed to use the thesis as a platform to present political opinions or statements.

Generative AI

Generative AI tools (such as ChatGPT/GPT4, Copilot, Perplexity, Gemini, etc.) should be handled responsibly if used in writing the thesis (kappa or monograph). The entire thesis is to be defended by the doctoral student, and the student is responsible for its content. At SCI, we apply the same instructions as the Karolinska Institute if generative AI has assisted you in writing parts of your doctoral thesis:

The doctoral student needs to declare in the kappa which generative AI tool(s)/service(s) have been used, and for what purpose(s) and how they have been used. The use of generative AI in the writing of the kappa may be discussed at the thesis defense/licentiate seminar.

Text box 1: The formulation is a citation from Karolinska Institute's instructions "[Content of the thesis](#)".

In this AI declaration, which is compulsory (both for a compilation and a monograph thesis), you must disclose all use of generative AI tools, specifying both which tools you have used and how you have used them. For instance, if you have used AI tools to generate ideas to enhance your content, to receive feedback on the structure of your text, or to rephrase or rewrite passages, you must be declared this explicitly. Please note that since AI tools are currently unreliable for information, one cannot use them as sources. You are also expected to verify all content thoroughly and ensure that you can be held fully accountable for everything stated in your text.

Layout of the compilation thesis at SCI

The chapters or headings marked below with Asterix (*) are mandatory at SCI, even though the *naming* and the order of appearance in the thesis are flexible.

- Abstract *
 - There are two options regarding the technical and scientific language of the abstract, A and B:
 - A. The abstract is written in English to any professor at SCI in mind. Its length should not exceed one page.
 - B. The abstract is written in English in a more precise technical language less suitable for a general audience (according to A.). Its length should not exceed one page.
- *Sammanfattning* *
 - This summary should be written in Swedish and is usually translated from the English abstract. It is preceded by a Swedish title of the thesis. Note that the summary and the title must be language-checked they cannot solely be translated

using a translation engine. Just as the English abstract the *Sammanfattning* should not exceed one page.

- Popular Science summary
 - The choice of abstract A. or B.* (cf. “Abstract” above) is associated with different demands:
 - A. It is recommended that the thesis contains a popular science description of the thesis work. This description should be written to a non-engineer. English and/or Swedish is allowed.
 - B.* It is required that the thesis contains a popular science description of the thesis work. This description should be written to a non-engineer. English and/or Swedish is allowed.
- Preface
 - Can contain a description of the thesis’ layout, independent of whether it is a compilation thesis or a monograph. It can also include a list of the appended papers (in the case of compilation thesis), a division of work between authors paper-by-paper, and a list of attended national and international conferences.
- List of papers * (in case of compilation thesis)
 - All papers should have complete references with full author’s list and digital objective identifier (i.e., doi number) if published. If the paper is not published, it is a manuscript, and it should be stated or say, “*To be submitted*”/”In preparation”/”Manuscript”. If the paper is submitted to a journal, it can say “*Submitted*” but NOT to which journal since at this point it is irrelevant information and the manuscript may after all, not be published in that journal.
- Division of work between authors * (in case of compilation thesis)
 - All authors’ contributions should be stated with the consent of all authors. In this way, the contribution of the doctoral student to each paper will be fully clarified. Use an established taxonomy, such as [CrediT](#), or provide detailed statements about roles (e.g., the scientific idea was provided by X_1 , X_2 was responsible for data collection, ..., X_n wrote a draft version of the paper, etc.).
- Conference attendances
 - The doctoral student can list both national and international conference contributions and specify if the paper of extended abstract was presented orally or as a poster.
- Contents *
 - A table of contents
- List of abbreviations
 - Strongly recommended if many abbreviations are used throughout the thesis.

- Nomenclature
 - Is recommended but depends also on the discipline and the scientific area.
- Declaration about the use of generative AI *
- This heading is mandatory even if generative AI has not been assisted in the thesis writing. See separate section for instructions.
- Example declaration (generative AI used):

- ◆ The following AI assisted tools.....*specify name and version*.....were used in writing the “kappa”/comprehensive summary of the thesis, for *purpose* Describe also *how/in what way* AI assisted tools have been used in the writing process. *Tools/services used for language support and reference management do not need to be declared and the declaration is not mandatory if AI assisted tools only have been used for these purposes.*
- ◆ I take full responsibility for the content of the “kappa”/comprehensive summary of the thesis.

Text box 2: The formulation is a citation from Karolinska Institute’s instructions “[Content of the thesis](#)”.

- Example declaration (generative AI not used):

- ◆ No generative AI tools have been used in the writing of the present thesis.
- ◆ I take full responsibility for the content of the “kappa”/comprehensive summary of the thesis.

- Part I – Overview and summary (what we denote as *kappa*) *
- Introduction and motivation *
- Research methodology *
- Results *
- Conclusions and discussion *
- Future work or Points of perspective or Outlook *
- Acknowledgements *
- References *
- Part II – Papers (in case of compilation thesis) *
 - Brief summary (typically one paragraph) of each paper
 - The original papers are numbered and appended *

There are two options to append the papers, one is to typeset the article using the thesis template, the other, is to include the published journal version. Both work fine. However, when an article is published in a journal, the copyright is often transferred to the publisher. You must therefore check the publisher's policy (the "copyright transfer agreement") or seek permission to include the article in your thesis. If the article has been published open access under a Creative Commons licence (e.g. CC BY), republishing it in your thesis is generally straightforward and unproblematic. Publishers sometimes do not permit the use of their PDF (the final published version). In such cases, you can typically use your own accepted version of the article (the "post-print" or "accepted manuscript"). This is always okay and in that case the paper is often typeset using the thesis template. You can always check with KTH library, as they are experts in copyright and thesis publishing and can assist you in obtaining permission from publishers.

Degree objectives for third-cycle education

In your Individual Study Plan (ISP), there are a number of degree objectives regulated by the Higher Education Ordinance (see, e.g., Section 9. of your ISP), which should be fulfilled by each doctoral student. When writing your thesis, please revisit these objectives and try to show your consolidated knowledge through the activities realized during your third-cycle education.