

Third-cycle education at the School of Engineering Sciences  
KTH – Royal Institute of Technology

## Supplement for third-cycle education at SCI

This document has been created by those responsible for third-cycle education at SCI to increase transparency in local decisions regarding third-cycle education and to consolidate relevant guidance in one place. Our governing document is KTH's [Guideline on third-cycle studies](#) (V-2019-0111), which takes precedence in all matters relating to third-cycle education. The present document is a supplement to that policy and describes how SCI reasons and interprets V-2019-0111 in specific matters. It does not claim to be exhaustive. The document also sets out SCI's specific requirements for participants in thesis defences, requirements that have been addressed in SCI's *Quality council for third-cycle education*. To achieve greater consistency across our theses, and to facilitate verification that all required elements are in place before a decision on the thesis defence is made, a general thesis outline is provided for authors to follow. Certain chapters/headings in our theses are mandatory, although the exact titles and their order within the thesis are flexible.

*This document has been translated into English for information purposes. In the event of any discrepancy or ambiguity between the English translation and the Swedish original, the Swedish version shall prevail.*

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## 1. Guidelines for conflict of interest management in third-cycle education at SCI

This document has been created to increase transparency and understanding among faculty and supervisors regarding the handling and application of conflicts of interest in third-cycle education (FU) at the School of Engineering Sciences (SCI).

KTH's [Guideline on third-cycle studies](#) clearly states that there must be no conflicts of interest between supervisor/doctoral candidate and committee members/opponent, but also impose specific requirements on other persons involved in, for example, a doctoral defence. In some cases, however, it can be challenging to determine where the boundary for conflicts of interest lies, which is precisely what this document aims to provide support for. It is also of great importance that we remain consistent in our handling of conflict of interest issues in the long term, and it is therefore also essential that there is broad support for this document. Coordinator of third-cycle education subjects (FoA) and the school's faculty board have been involved in a consultation process, where they have had the opportunity to comment on the document before a decision was made by the Director of Third-Cycle Education at SCI. The guidelines are inspired by the Swedish Research Council's conflict of interest rules, as well as several governance documents from other universities in Sweden, and discussions among SCI's coordinators of third-cycle education subjects and directors of third-cycle education at SCI ([FA-PA Workshop SCI: 2023-09-26](#)). All documents can be found in the reference list.

Below, a brief introduction to the principle of objectivity and conflicts of interest in general is first provided, which is essential to consider when assessing different conflict of interest situations. A table with examples of conflict of interest situations that SCI has decided to follow is then available from page 4.

### 1.1 The principle of objectivity and conflicts of interest

Representatives of Swedish authorities have an obligation to act objectively in accordance with the principle of objectivity as expressed in the [Regeringsformen \(1974:152\) 1 kap.](#) (Instrument of Government) (1974:152) Chapter 1), Section 9 and in the [Förvaltningslagen \(2017:900\)](#) (Administrative Procedure Act) Section 5, paragraph 2. KTH and all other authorities must act factually and impartially and consider everyone's equality before the law. Even the risk that others may perceive that the authority has not observed factuality and impartiality can be contrary to the principle of objectivity.

*Conflict of interest* refers to circumstances that can undermine confidence that a decision-maker or case handler is impartial in the handling of a matter.

Rules on conflicts of interest are found in the [Förvaltningslagen \(SFS 2017:900\)](#) (Administrative Procedure Act) (SFS 2017:900) Sections 16-18:

- Section 16 describes four different groups of conflict of interest situations
- Section 17 describes the effect of conflicts of interest

- Section 18 describes obligations in cases of conflicts of interest

The handling of conflict of interest issues is also described in KTH's [Guideline on third-cycle studies](#). Two critical points worth emphasizing are:

- **Notification:** *Anyone who is aware of a circumstance that may be assumed to make him or her biased must immediately report this to the authority (SFS 2017:900 Section 18).*

Regarding the third-cycle education at SCI, notification is normally made through the forms to be completed for, for example, application of dissertation defence, but can also be made directly to the director of third-cycle education (FA) at SCI. One has an *obligation* to report conflicts of interest oneself, but other persons can also report a question of conflict of interest.

- **Information:** *A person who is biased may not take part in the handling of the matter and may not be present when the matter is decided (SFS 2017:900 Section 17).*

For example, when *Applying for a dissertation defence*, it is therefore essential to state all circumstances that could be seen as conflicts of interest. Anything else is an **irregularity**. It is then the FA at SCI who examines the conflict of interest issue as soon as possible. Note that it is better to exonerate oneself as the main supervisor by reporting a possible conflict of interest and having the situation examined by the FA, who makes the decision on the matter.

## 1.2 Delicacy bias or proximity bias

The most difficult conflict of interest situation to assess in Section 16 ([SFS 2017:900](#)), but also the most common in the third cycle education, is point 4. This group is called *delicacy bias*, also called *proximity bias*, and concerns whether there is any special circumstance that can undermine confidence in the person's impartiality in the matter. Some reasons may be:

- A1. Dependence of an economic nature.
- A2. Manager/employee relationship.
- A3. Close collaboration in a professional sense.
- A4. Obvious friendship, enmity, or disagreement.
- A5. That the conditions for an impartial assessment are lacking.
- A6. That someone is involved in the matter in such a way that suspicion can easily arise.

The concept of *propriety bias* (Swedish: *delikatessjäv*) means that you may be disqualified if there is any other circumstance (than those in points 1-3 of Section 16 SFS 2017:900) that could call your impartiality in the matter into question.

This means that you may be considered disqualified even if you have not actually failed to meet the requirements for objectivity and impartiality.

Part of the assessment involves considering how it appears from an external perspective that you, who have some kind of relationship to the matter, are participating in the handling of the case.

It is essential to note that in its assessment of conflict of interest issues, the FA does not make any assessment of people's professionalism. Still, in most cases, it is about how the situation appears from the outside, i.e., whether trust can be considered to be undermined for an impartial handling of a matter.

### 1.3 Conflict of interest situations according to SCI

In Table 1, examples of common conflict of interest situations can be found. Many of the examples are taken from SCI's cases that arose in 2023, which were first discussed between FA and vice FA and then during the [FA-PA Workshop SCI: 2023-09-26](#). All situations followed by (\*) in the table are elaborated in bullet form after the table to provide clarification.

Table 1. Common Conflict of Interest Situations		Reason	SCI's assessment
<i>Scientific Collaboration</i>			
S1.	Conflict of interest exists in scientific collaboration and co-production that has taken place during the last five-year period. (*)	A3	Conflict
S2.	Conflict of interest may exist for a longer period than five years if the scope of co-authorship has been extensive and/or if otherwise close collaboration has occurred. (*)	A3	Conflict
S3.	Co-production that took place more than 10 years ago and where no close collaboration has occurred since is not considered to constitute a conflict of interest. Assessed on a case-by-case basis. (*)	A3	<i>No conflict</i>
<i>Dependencies</i>			
B1.	Close collaboration in a professional sense may exist at small institutions even if one has not specifically worked or written together, which is assessed on a case-by-case basis.	A2, A3	Risk of conflict
B2.	Doctoral student – main supervisor relationship is assessed as a conflict of interest regardless of how long ago the collaboration took place. For exceptions see B9.	A5	Conflict
B3.	Proposed committee member/opponent has a friendship relationship with the assistant supervisor. (*)	A4	Conflict
B4.	The proposed mandatory reviewer for a licentiate thesis/doctoral dissertation has an ongoing collaboration with the assistant supervisor. (*)	A3	Risk of conflict
B5.	The proposed substitute member for the grading committee for a dissertation defence has an ongoing collaboration with the main supervisor/assistant supervisor.	A3	Conflict

B6.	The proposed substitute member in the grading committee for a dissertation defence has an ongoing management assignment at the department for which the main supervisor/assistant supervisor is head. (*)	A2	No conflict
B7.	Supervisor has been responsible for inviting the opponent/committee member to give a presentation at a conference. (*)	A5	No conflict
B8.	Coordinator of a third-cycle education subject (FoA) to which the doctoral candidate is admitted is proposed as mandatory reviewer/substitute member in the grading committee. (*)	A5	No conflict
B9.	A main supervisor proposes their own former supervisor to be the mandatory reviewer for their doctoral student's licentiate thesis/doctoral dissertation. (*)	A5	No conflict
<i>Economic Dependence</i>			
E1.	Generally, the opponent/committee member should be disconnected from joint projects with supervisor/doctoral candidate. Otherwise, there is a conflict of interest. (*)	A1	Conflict
E2.	Proposed committee member/opponent is a recurring guest lecturer in one of the department's Master's/Doctoral courses. (*)	A1	Conflict
E3.	Proposed opponent/committee member is employed by a company that owns the rights to research results in the dissertation or has financed the research.	A1	Conflict
E4.	Proposed committee member/opponent is active in a company where the supervisor has a role as co-owner, board member, etc.	A1	Conflict
E6.	Supervisor/doctoral candidate has recently applied for but not been granted a project proposal together with proposed opponent/examining committee member, or alternatively a planned/submitted application.	A1	Risk of conflict

- S1:** Co-production (Swedish: *Samproduktion*)  
A joint article or a joint chapter in an edited book may be sufficient to constitute co-production. Possible exception: In certain subject areas and scientific contributions, it may occur that one is a co-author on an article without knowing or having worked with all authors. However, a possible conflict of interest situation should always be reported and then assessed by the FA at SCI.
- S2:** If several articles ( $\geq 3$  articles) have been co-produced within the span of  $5 < \text{years} < 10$  years, the scope is considered extensive.
- S3:** Close collaboration (Swedish: *Nära samarbete*)  
For  $>10$  years to be considered a sufficiently long time ago not to undermine trust, no other reason (A1-A6) may exist, such as A3-A4.

- **B3:** Regarding "friendship relation", clear conflict of interest if it involves private meetings. International colleagues where a professional relationship exists should not be seen as a conflict of interest.
- **B4:** In the suitability assessment, one needs to weigh any conflict of interest against the role of the mandatory reviewer. SCI reasons that a mandatory reviewer is not involved in making the final decision on whether a thesis should be approved or not; this task rests with the examining committee. The feedback that a mandatory reviewer can therefore provide if they are an expert in the field should therefore not be disregarded due to collaboration with the assistant supervisor. However, collaboration with the main supervisor is directly inappropriate.

Note: If a mandatory reviewer is proposed despite collaboration with an assistant supervisor, however, they cannot be a substitute member of the grading committee, which is otherwise quite common. See B5.

- **B6:** SCI's assessment is that if it only concerns a manager/employee relationship, there is no conflict of interest as long as no other reason A1-A6 exists.
- **B7:** SCI considers this to be a purely professional relationship if no other reason A1-A6 exists.
- **B8:** No conflict of interest as long as no other reason A1-A6 exists.
- **B9:** No conflict of interest due to the role of the mandatory preliminary examiner (see comment on B4). However, it should be noted that there is a lifelong conflict of interest between supervisor and opponent/committee member/substitute member. Doctoral student – supervisor relationship is assessed in these cases as a conflict of interest regardless of how far back in time one looks.
- **E1:** Operating in joint projects is to be regarded as a conflict of interest. That someone would have a purely administrative role does not matter.
- **E2:** Regarding "guest lecturers", if salary is paid there is an economic dependence and therefore there is a clear conflict of interest. Unpaid guest lecturer for an extended period, there may be exchanged services and favors and is seen as inappropriate. Individual guest lecturers should not constitute a conflict of interest.

## 1.4 References

The following reference list has been important in the preparation of this document. All documents are easily accessible via the web.

- [1] *Guidelines for Third-Cycle Education, KTH (2022), Ref. no. V-2022-0202.*
- [2] *The Swedish Research Council's guidelines for handling conflicts of interest, Swedish Research Council (2023), Ref. no. 1.2.4-2023-00185.*
- [3] *Guidelines on conflicts of interest, University of Skövde (2015), Ref. no. HS2015/906.*
- [4] *Guidelines for third-cycle education at Luleå University of Technology, LTU (2021), Ref. no. LTU-4085-2021.*

- [5] *Guidelines for handling conflict of interest issues at Luleå University of Technology, LTU (2022), Ref. no. LTU-2319-2022.*
- [6] *Conflict of interest rules within the university's area of operation, Uppsala University (2018), Ref. no. 2018/1656.*
- [7] *Conflicts of interest in public service, Swedish Agency for Public Management (2020), ISBN 978-91-88865-28-1.*
- [8] *Do you know when you are biased? Guide for all employees, Inst. of Medicine, University of Gothenburg (2022). Brochure.*
- [9] *Guidelines for the compilation of examining committees including conflict of interest situations, Lund University Faculty of Engineering (2021), Ref. no. U 2021/559.*
- [10] *Guidelines on conflicts of interest, Karolinska Institutet (2019), Ref. no. 1-405/2019.*
- [11] *Guidelines for the composition of the examining committee, Linköping University (2019), TF-FUN 2019-1.5, Ref. no. LiU-2018-03517.*
- [12] *Conflict of interest rules in higher education, Association of Swedish Higher Education Institutions (1997). 1997-11-25.*
- [13] *FA-PA Workshop SCI: 2023-09-26, KTH SCI (2023).*

## 2. Compiled information about disputations and licentiate seminars at SCI

This sub-document is sent to the grading committee, the opponent, and the external reviewer when FOA officially communicates FA's decision on the thesis defence/licentiate seminar.

### 2.1 Disputation

*Brief information for committee members and the faculty opponent participating in a public defence of a doctoral thesis.*

The school of engineering sciences at KTH is very grateful for your contributions to our thesis defence procedure. This document aims at informing you about the procedure and help you perform your role during the public defence and the following committee meeting.

The public defence of a doctoral thesis at KTH has the following actors:

1. **The chairperson:** Opens and guides the proceedings. The person acting as chair of the disputation is typically a senior faculty from the department at which the respondent has studied (department head or a professor/associate professor at the department).
2. **The respondent:** The author of the thesis who should defend the thesis and demonstrate adequate knowledge about the content of the thesis.
3. **The opponent:** Demonstrates to the committee to which extent the respondent knows the content of the thesis.
4. **The committee:** Decides whether to pass or fail the respondent.
5. **The audience**

The public defence contains the following parts as outlined below:

- **Introduction:**

- **Option A:** A brief introduction to the field by the opponent. The introduction should introduce the field in general and put the thesis work into context.
- **Option B:** An expose of the highlights of the thesis given by the respondent.

**Option A, B or both must be chosen.** Typical total time for the introduction is 30-40 minutes.

- **Optional:** 5-10 min break. The chairperson may choose to hold the break at a later time.
- **Thesis discussion:** The opponent discusses the thesis with the respondent and asks questions that mainly concern the work and the area described in the thesis. The aim is to clarify to which extent the respondent masters the content and topic as well as to establish the respondent's contribution to the work presented in the thesis. Typical time 45-60 minutes.
- **Questions by the committee:** The committee members are given the chance to ask questions to the respondent. The committee members are not obliged to ask questions, but it is customary to do so. Typically, one or two questions per committee member.
- **Questions from the audience**
- **Closing of the defence:** Total time is typically 2-2.5 hours, but it is important to note that there is no formal time limit.
- **Committee meeting:** The committee members meet to decide on a Pass or Fail grade. The opponent and main supervisor should be present to answer questions in the initial part of the meeting but must leave before the committee discusses and decides on a grade.
- **Presentation of the grade:** The chairperson of the committee presents the grade (Pass or Fail) to the respondent.

## 2.2 Licentiate seminar

*Brief information for the special reviewer and the examiner participating in a public defence of a licentiate thesis.*

The school of engineering sciences at KTH is very grateful for your contributions to our thesis defence procedure. This document aims at informing you about the procedure and help you perform your role during the public defence.

The public defence of a licentiate thesis at KTH has the following actors:

1. **The chairperson\*:** Opens and guides the proceedings. The person acting as chair of the licentiate seminar is typically a senior faculty from the department at which the respondent has studied (department head or a professor/associate professor at the department). The supervisor should not take this role. However, the examiner is allowed to act as chairperson of the licentiate defence if no other faculty member can take on this role.  
  
\* A chairperson is not officially appointed by KTH for licentiate seminars but is strongly recommended.
2. **The respondent:** The author of the licentiate thesis who should defend the thesis and demonstrate adequate knowledge about the content of the thesis.

3. **The special reviewer:** acts as opponent at the licentiate defence and should demonstrate to the examiner to which extent the respondent knows the content of the thesis.
4. **The examiner:** Decides whether to pass or fail the respondent.
5. **The audience**
6. **The audience**

The public defence contains the following parts as outlined below:

- **Introduction:**
  - **Option A:** A brief introduction to the field by the special reviewer. The introduction should introduce the field in general and put the thesis work into context.
  - **Option B:** An expose of the highlights of the thesis given by the respondent.

**Option A, B or both must be chosen.** Typical total time for the introduction is 30-40 minutes.
- **Optional:** 5-10 min break. The chairperson may choose to hold the break at a later time.
- **Thesis discussion:** The special reviewer discusses the thesis with the respondent and asks questions that mainly concern the work and the area described in the thesis. The aim is to clarify to which extent the respondent masters the content and topic as well as to establish the respondent's contribution to the work presented in the thesis. Typical time 30-40 minutes.
- **Questions from the examiner and other participants at the seminar**
- **Presentation of the grade:** Is done immediately after the seminar. The examiner of the licentiate thesis decides on the grade after discussions with the special reviewer, advance reviewer (if present) and the supervisor. After the discussion the grade (Pass or Fail) is presented to the respondent.
- **Closing of the defence:** Total time is typically 1-2 hours, but it is important to note that there is no formal time limit.

### 3. The thesis defence procedure and roles

#### Guidelines and responsibilities for all parties at the public examination of a doctoral thesis at SCI

A doctoral thesis shall be publicly defended at a thesis defence. The thesis defence is the formal examination of the doctoral candidate's scientific work and is preferably conducted in English at KTH School of Engineering Sciences (SCI).

This document describes the thesis defence procedure, and the roles and responsibilities of all parties involved in a thesis defence at SCI. It may be of particular interest to new faculty at SCI who are not yet fully familiar with the practices for public thesis defences. The document also serves as a guide for all SCI faculty who have been assigned a role in a thesis defence.

Thesis defences at SCI are recommended to be conducted with all participants present in person. FA may decide to permit digital attendance, for example via Zoom, for participants holding central roles in the defense. This does not apply, however, to the respondent or the chairperson of the thesis defense, who shall attend in person. Should the chairperson be unable to attend, FA may appoint a replacement chairperson. When digital attendance for participants with central roles is planned, [KTH's guidelines for Zoom Webinar](#) shall be followed (see link).

All doctoral defenses and licentiate seminars on campus shall be made accessible to observers digitally. Please note that the respondent shall not act as organiser of the Zoom-Webinar, nor be responsible for the Zoom connection, at their own defense.

**Technical support:** [it-support@kth.se](mailto:it-support@kth.se) or +46 8 790 66 00.

#### 3.1 The thesis defence procedure

##### *Opening*

The chair opens the thesis defence and presents the respondent, the thesis, the opponent, and the members of the grading committee. The respondent is then given the opportunity to announce any amendments or corrections. The presentation of the thesis may follow format A or B below, or both formats may be chosen:

- Option A: A brief introduction to the field is given by the opponent. The introduction should present the field in general and place the thesis work in context.
- Option B: An account of the main features of the thesis, given by the respondent.

Option A, B, or both must be chosen. The typical total time for the introduction is 30–40 minutes.

### *The opposition*

The opponent initiates a discussion with the respondent about the thesis work and its results (recommended 45–60 min). The chair then invites the members of the grading committee to pose supplementary questions to the respondent (recommended approx. 10 min per member), after which the audience is given the opportunity to ask questions and discuss the thesis.

There is no time limit for a thesis defence. If the defence takes longer than expected, the chair may decide to take a break. The defence may not be concluded until all questions and discussion points from the opponent, the grading committee, and the audience have been exhausted. The expected time frame should be communicated to the opponent and all members of the grading committee before the defence begins.

### *Decision of the grading committee*

After the thesis defence, the grading committee convenes. The first step is for the members to decide among themselves who shall serve as chair of the grading committee. The meeting then proceeds in two parts:

- During the first part, the chair of the thesis defence, the supervisor(s), and the opponent may be present to discuss the respondent's performance. The committee decides itself which other persons may be present and may speak before the grading decision is made.
- During the second part, only the members of the grading committee may be present, in order to decide whether the thesis shall be approved or failed. The decision is made by simple majority. If the committee is not unanimous in its decision to approve the thesis, or if the thesis is failed, the reasons for the decision shall be stated in the minutes or in a separate document. The same applies to the grounds put forward by an individual member who has expressed a dissenting opinion. Other persons present — other than the members — have the right to have a dissenting opinion recorded. Such a note is made in a separate document and appended to the minutes.

The decision of the grading committee is recorded in the minutes and signed on a form, which the chair of the thesis defence then hands to the department administrator.

If extraordinary circumstances arise during the thesis defence and the grading committee considers further investigation or consultation necessary before a decision can be made, the committee shall adjourn the meeting. An adjournment should not exceed two weeks.

## **3.2 Roles and responsibilities**

### *The chair*

The chair is the coordinator of the thesis defence and the representative of KTH SCI. The chair is expected to be familiar with the thesis defence procedure and able to handle any complications that may arise.

The chair declares the thesis defence open and ensures that the respondent, the opponent, and the grading committee are given good conditions for a well-conducted presentation and opposition. The chair provides the grading committee's minutes form and ensures that the completed form can be handed directly to the school's administrative office when the thesis defence has concluded.

The chair presents the respondent and the opponent and describes where the research has been conducted and who else has contributed to the project. Finally, the chair informs those present that they will be given the opportunity to pose questions after the opponent has completed the examination.

Once the opponent has concluded the examination, the chair gives the members of the grading committee the opportunity to raise questions they consider require further clarification. The thesis defence is then opened to the other persons present, who are given the opportunity to pose questions and comment on the thesis. The principal supervisor, the opponent, and the respondent have the right to participate in the ensuing discussion.

The chair then declares the thesis defence closed. A thesis defence typically lasts approximately two to three hours.

#### *Absence and substitution*

If the opponent is unable to attend, the grading committee may take over the opponent's role. If a member of the grading committee is unable to attend, the chair shall contact the third-cycle education administration at SCI and the appointed reserve shall be called in.

It is possible to conduct a thesis defence with remote participants via digital solutions, which may be an option in the event of late withdrawals or inability to attend in person. The reason for the inability to attend physically must be known to FA in order for remote participation to be approved. Such exceptions are made very sparingly at SCI.

#### *The opponent*

The principal supervisor is responsible for ensuring that the opponent receives, well in advance of the thesis defence, comprehensive information about the thesis, its structure, and the procedure for the defence.

During the opposition, the opponent discusses the thesis with the respondent and poses questions relating primarily to the work carried out and the subject area covered by the thesis. The opposition concludes when the opponent considers all questions exhausted. During this part of the thesis defence, the audience does not have the opportunity to participate in the discussion.

The opponent is an external expert who examines and critically scrutinises the scientific content of the thesis. The role of the opponent is central to the thesis defence and includes:

- Providing a brief introduction to the subject area, corresponding to option A of the thesis defence procedure (unless the respondent does so instead).
- Conducting an in-depth discussion with the respondent on the methodology, results, and conclusions of the thesis.
- Attending the first part of the grading committee's meeting in order to contribute to the assessment of the respondent's performance.

#### *The grading committee*

The grading committee is responsible for the formal examination and decides whether the thesis shall be approved or failed. The members of the grading committee:

- Pose supplementary questions to the respondent during the opposition part of the thesis defence.
- Participate in the grading committee's meeting and make decisions by simple majority.
- Sign the decision record, which is handed to the chair of the thesis defence for further processing.

During the second part of the meeting, when the decision is made, only the members of the grading committee may be present.

#### *The respondent*

The respondent is the doctoral candidate who is defending their thesis. The respondent's tasks during the thesis defence include:

- Announcing, at the outset, any amendments or corrections to the thesis.
- Presenting a concise summary of the thesis and its main results, corresponding to option B of the thesis defence procedure (unless the opponent does so instead).
- Answering questions from the opponent, the grading committee, and the audience in a scientifically well-founded manner.

#### *The supervisor*

The supervisor has a supporting and advisory role throughout the thesis defence process. During the thesis defence itself:

- The supervisor is present as support and takes a passive role throughout the opposition.
- The supervisor may attend the first part of the grading committee's meeting.
- The supervisor may not attend the second part of the meeting, when the decision is made.

The supervisor's primary responsibility is to prepare the respondent for the thesis defence and to ensure that the thesis meets the requisite scientific standard.

## 4. Guidelines for proposing an opponent and grading committee at SCI

Requirements for the opponent, the chair, and the composition of the grading committee at a thesis defence are regulated in section 7.4.2 of the KTH's [Guideline on third-cycle studies](#) (page 22). This document provides clarifications on how SCI handles the appointment of grading committees and opponents for thesis defences at SCI. Italicised paragraphs are excerpts from *KTH's Guideline on third-cycle education*. Plain text represents SCI's additions. At the end of the document, a note is also provided on the proposal of an *external reviewer* for a licentiate seminar.

A reminder to all faculty at SCI: when proposing an opponent and grading committee members, the principal supervisor must also consider potential conflicts of interest between the proposed individuals and the co-supervisors. It is advisable to consult with the co-supervisors before submitting the proposal to the administrative office.

### 4.1 Thesis defence

#### 4.1.1 Composition of the grading committee at SCI

- *Women and men must be equally represented, unless special reasons prevent this (any such reasons must be presented in the decision to appoint a grading committee).*

At SCI, women are generally underrepresented, and the gender balance requirement is in practice aimed at ensuring female representation on the grading committee. An exemption from the requirement for a female member may be granted only if repeated and documented efforts have been made to recruit a woman, and if a female opponent has been appointed for the thesis defence in question. A list of at least two women who were approached but declined must be appended to the application for an exemption.

SCI's principle is that women should be represented in official roles during the thesis defence. In cases where an exemption is granted for a female grading committee member, both a female opponent and a female chair are therefore required. No exemption from the requirement for a female grading committee member is approved in any other case.

Principal supervisors are urged to begin work on the composition of the grading committee well in advance of the thesis defence application, so that the timetable can be maintained for the respondent and all other parties involved.

- *Each member must have been awarded a Degree of Doctor, and a majority of the members must be scientifically competent corresponding to docent.*

*Competent corresponding to docent* (‡). The most common composition at SCI is a grading committee of three members. SCI recommends that the majority of members hold the title of docent. For proposed committee members who do not hold the title of docent but are considered to have equivalent scientific expertise, a CV and list of publications (optionally including a link to a Google Scholar profile) shall be submitted together with the application for the doctoral defense, whereupon FA will assess whether the competence requirement is met. A member holding the title of professor is not subject to this assessment, but is automatically considered to fulfil the requirement for scientific expertise equivalent to *docent*.

#### 4.1.2 Opponent at SCI

- *The opponent must have been awarded the Degree of Doctor, be scientifically competent corresponding to the docent and be internationally prominent researcher in the current subject area. The opponent may not be employed at KTH.*

SCI recommends that the proposed opponent holds the title of professor. For a proposed opponent who is not a professor, a CV and list of publications (optionally including a link to a Google Scholar profile) must be attached to the thesis defence application, whereupon FA will assess whether the opponent meets the requirement for scientific expertise equivalent to *docent* and can be considered an internationally prominent researcher.

### 4.1 Licentiate seminar

Requirements for the special reviewer, the chair, and the examiner at a licentiate seminar are regulated in sections 7.3.2–7.3.3 of the [Guideline on third-cycle studies](#) (pages 22–23). The only clarification SCI provides concerns the special reviewer who, according to section 7.3.2, shall have scientific expertise equivalent to that of a docent. The same position applies here as for the formulation *equivalent to docent* in the appointment of grading committee members at a thesis defence. See (‡) on the previous page.

## 5. Thesis format and content at SCI

### 5.1 General information

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.

## 5.2 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 or 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.

## 6. Digital forms

### 6.1 Expectation form – supervisor/PhD student

This form with questions can serve as the basis for a conversation between supervisor and doctoral candidate, preferably early in the doctoral education and thereafter as a follow-up when needed. The questions can be answered separately by the supervisor and the doctoral candidate and then discussed together. Similarities and differences in expectations regarding supervision, research, working hours, teaching, collaboration, and working environment are thereby brought to light at an early stage. The exercise may also lead to a more in-depth discussion on matters where the perspectives differ markedly. The conversation can help bring different viewpoints closer together and resolve misunderstandings. The aim is to establish a good working relationship between supervisor and doctoral candidate from the outset and to give the doctoral candidate a well-founded start to their doctoral education.

[To the form](#)

### 6.2 Annual follow-up – PhD student

This form with a question bank should be used at the annual follow-up meetings that each coordinator of doctoral studies (FOA) holds with all doctoral candidates in their programme. The questions are important to ask as FA needs to be able to compile statistics for the annual quality report for third-cycle education at SCI. The first page, containing names, corresponding answers, and notes by the FOA, is confidential material, but constitutes important information as an annual follow-up now is taken place.

[To the form](#)