

Research Programmes Board, LTH/FUN

Information for external faculty opponents and examination committee members at LTH, Lund University

This guide provides explanations of the terms and procedures of public doctoral defences at the Faculty of Engineering at Lund University (LTH). It is intended as a support for those involved in the assessment of doctoral defences at LTH. Participation in doctoral examination is based on distinguished competence in relation to the thesis content. The contribution of the assessors is of immense value for the quality assurance of doctoral defences at LTH. The guide includes descriptions of the different actors in the LTH examination process and describes the stages of the LTH doctoral defence process, including the preparation, the public defence, and the final closed pass/fail vote by the examination committee. It is strongly advisable to consult the main supervisor and/or the chair of the public defence to discuss the expected procedure at an early stage. For reference, the statutory national learning outcomes for the doctoral degree and principles of examiner impartiality are included in Appendices 1 and 2.

Translated terminology

Avhandling	Thesis
Betygsnämnd	Examination committee
Disputation	Doctoral defence
Doktorand	Doctoral student
Respondent	The student defending the thesis
Suppleant i betygsnämnd	Committee deputy member
Huvudhandledare	Main supervisor
Biträdande handledare	Co-supervisor
Fakultetsopponent	Faculty opponent
Ordförande i betygsnämnd	Chair of the examination committee
Ordförande vid disputation	Chair of the public defence

Explanation of roles

The *faculty opponent* is selected based on suggestions from the host department of the thesis defence and is appointed by the faculty. The faculty opponent is a specialist in the scientific field of the student, with an expertise suitable for assessing the thesis and the defence. The faculty opponent is the assessor who engages *the respondent* (the student) in a challenging discussion of the thesis during the major part of the public defence. This discussion should focus the scrutiny of the scientific work presented in the thesis. The faculty opponent attends but does not vote in the closed examination committee meeting after the public defence.

The *examination committee* consists of three or five (uneven number) voting members who are appointed by LTH for a particular doctoral defence. They are elected with the mandate of judging the quality of the oral defence and the thesis. Committee members often represent different scientific aspects of the thesis, as well as aspects relevant to the interests of society. Individual examination committee members decide, through a vote, whether the respondent should pass or fail. A pass means that the student through a dissertation has shown the ability to make a significant contribution to the formation of knowledge through his or her own research and that the ECTS credits awarded for the thesis match the contribution. Other formal requirements for the doctoral degree (course credits, etc) are assessed separately and acknowledged by the Dean of LTH, who issues the doctoral diploma when all required merits are confirmed. The objective of the Swedish doctoral degree, regardless of discipline, is represented by a set of intended learning outcomes (Appendix 1). Several, but not all of these outcomes are covered by authoring and defending a doctoral thesis.

In addition to the examination committee members, a *deputy committee member* is appointed. The deputy member replaces a regular member of the committee in case of impediment. The deputy member participates on equal terms with the examination members in the preparation process, as well as during the public defence. If the examination committee remains intact the deputy member can still be invited to attend the closed examination meeting after the public defence but is not allowed to vote.

The examination committee selects a *chair of the examination committee* among themselves at the beginning of the examination committee meeting. This person has the responsibility to lead the discussion in the closed assessment meeting after the public defence and records the result of the pass/fail vote. The vote is typically announced orally immediately after the closed assessment meeting, as the audience normally waits for the verdict outside the closed room.

The *chair of the public defence* is normally a senior faculty member from the host department at LTH, who explains the thesis defence structure and is responsible for the public defence until the chair of the examination committee has been elected. The doctoral defence is *open to the public* and is usually held in a lecture theatre. The audience is entitled to pose questions to the respondent at the end of the public defence. The chair of the public defence may be invited to the closed examination meeting after the public defence but is not allowed to vote.

Prior to the defence

The faculty opponent and the examination committee members are obliged to consider and report potential partiality in relation to the respondent/supervisors (see Appendix 2), so that the faculty (LTH) can consider replacing potentially partial assessors. If such concerns are raised, it is the obligation of the opponent/examination committee member to contact the host department (supervisor or chair of public defence) to discuss the matter of concern.

The final doctoral thesis must be *printed, distributed, and electronically available at least 3 weeks and 3 working days prior to the defence*. The faculty opponent and the examination committee will obtain preprints or copies of the thesis in manuscript form prior to that deadline. The examination committee and the faculty opponent are obliged to read the preprints as well as the final version of the thesis in good time.

In very rare cases, where the thesis has such serious shortcomings that a faculty opponent or voting examiner is inclined to recommend a fail vote based on the quality of the written thesis alone, it is strongly recommended that the defence be postponed until an acceptable revised thesis can be produced. Based on the preprints the individual members of the examination committee and the faculty opponent shall form their opinion whether the thesis is suitable to defend at the doctoral defence. This is not considered as a pre-approval of the thesis, and does not guarantee a pass the doctoral defence. Respond to the host department at least six weeks prior to the date of the scheduled doctoral defence. To raise objections against the thesis, also email the Deans Office at LTH (rektor@lth.lu.se).

In case of impediment, opponents/committee members must immediately contact the supervisor or the chair of the public defence so they can arrange any necessary replacements of examiners.

The public defence

After consultations, well in advance of the defence, with the faculty opponent, the supervisor, and the respondent, the chair of the public defence decides on details of the format of the public thesis defence, in accordance with the habits of the host department.

The *public thesis defence is opened by the chair of the public defence*, who presents the respondent, the faculty opponent, the examination committee, and the supervisors, as well as the agenda of the thesis defence. This typically includes a brief explanation of the thesis defence procedures. The subsequent succession of events varies between the different LTH disciplines. A typical procedure is presented in the summary below.

The faculty opponent and/or the respondent commonly present an initial *overview of the respondents' work*, providing a brief account of the most important findings. In the presentation(s), the focus of the thesis is related to the overall research field, placing it into context. This is typically held at a reasonably general scientific level so that other academics within the faculty can follow.

The introductory presentation of the work is followed by the most important part of the public defence, *the scientific discussion*. Here the faculty opponent asks probing questions and discusses important issues of the thesis with the respondent, and the respondent answers questions and explains and defends the work. The faculty opponent's questions should aim to highlight the key contributions, the relevance of the work, and possible misconceptions or erroneous research results. The inquiry can range from general topics to more detailed ones. It is advisable to bring up questions concerning the relevance of the assumptions that the respondent has put forward. The respondent should be given ample opportunities to demonstrate a mature understanding of the investigated research issues. The faculty opponent is free to select any aspect of the work for this discussion, entirely at his/her own discretion. However, questions must be of relevance to the thematic focus of the thesis, as the defence is not meant to be an oral examination of general curriculum. At the end of the dialogue, the faculty opponent typically sums up the main impressions of the work.

After the faculty opponent's conclusions, the chair of the thesis defence invites the *examination committee members to add questions and comments*. Finally, the audience is given the opportunity to challenge the respondent, *ex auditorio*, before the chair of the thesis defence closes the public

defence. There is no formal time limit for the thesis defence, but the entire public defence usually lasts two to three hours. After the public defence the examination committee meeting takes place behind closed doors. Finally, the chairman of the committee publicly announces the committee vote.

Summary of commonly occurring events at LTH doctoral defences (variations occur)

1. The chair of the public defence introduces the participants and their roles.
2. Introduction (often) by the faculty opponent, placing thesis in context.
3. Introduction (often) by the respondent, of main findings.
- - - - - a brief intermission, in some LTH disciplines - - - - -
4. The main discussion and defence (faculty opponent and respondent).
5. A few additional questions and comments from the examination committee.
6. Additional questions and comments from the audience may occur.
7. The chair of the public defence closes the session.
8. The examination committee meets behind closed doors, with the supervisor and chair of defence.
9. The outcome of the examination committee vote is orally announced by the examination committee.

The closed examination committee meeting

The examination committee assembles in a closed assessment meeting that concludes the examination committee vote, where each committee member individually delivers a pass or fail verdict. This meeting is also attended by the faculty opponent. The respondent's supervisors and the stand-by deputy committee member can be invited by the examination committee to join the meeting and volunteer clarifications, but they do not have a vote. The chair of the public defence may also participate in the closed meeting, only to answer procedural or formal questions. As the closed meeting starts, *the examination committee members appoint a chair amongst themselves*. The chair of the committee can request additional remarks from the faculty opponent that were not presented during the public defence, including pass/fail recommendations, and statements of the strengths and weaknesses of the respondent's work. The committee may also ask the supervisors to comment on the respondent's contribution or, for instance, choice of working methods.

Each member of the examination committee volunteers their evaluation of the work, especially in their areas of expertise. This is followed by a discussion of the pros and cons of the respondent's research and publications. The examination committee can at any point request the non-voting meeting participants to leave the room.

When the chair of the examination committee finds the members ready to vote, *each member of the examination committee is asked to give their individual pass/fail vote orally*. The decision of the majority prevails. There is no formal requirement of agreement between exam committee members. The vote result is confirmed in a thesis defence protocol brought to the meeting by the main supervisor, which is signed by the members of the voting committee. Notes are not taken and minutes are not kept from the closed examination meeting. The pass/fail vote should be based on the qualities of the thesis and the oral defence. If the examination committee arrives at a fail verdict, it is obliged to explain the reasons in a separate document. In contrast to some international academic traditions, no differential passing grades are awarded. Immediately after the closed meeting of the examination committee, the vote result is publicly announced by the chair of the examination committee.

Appendix 1 – Intended learning outcomes of all doctoral education in Sweden

For the degree of Doctor of Philosophy, the student must be awarded a pass grade for a research thesis (doctoral thesis) corresponding to at least 120 ECTS credits in terms of study effort. Thesis work, course work and additional academic activities must correspond to a total of 240 ECTS credits at the third-cycle level of studies. The intended learning outcomes of Swedish doctoral education are thus partly met by authoring and successfully defending a doctoral thesis. Additional learning outcomes are mastered through course work and other learning activities in the research environment that are not necessarily presented to the examination committee members who are responsible only for assessing the thesis defence. For further information regarding the thesis format and publication culture within the discipline, please contact the supervisor who can share the curriculum (the general study plan) of the research subject.

For a doctoral degree in Sweden, the student shall demonstrate:

- broad knowledge and systematic understanding of the research field as well as advanced and up-to-date specialised knowledge in a limited area of this field.
- familiarity with research methodology in general and the methods of the specific field of research in particular.
- a capacity for scholarly analysis and synthesis and an ability to review and assess new and complex phenomena and situations autonomously and critically.
- an ability to identify and formulate research issues with scholarly precision critically, autonomously and creatively.
- The ability to plan and use appropriate methods to undertake academic tasks within predetermined time frames, and to review and evaluate such work.
- through a dissertation, the ability to make a significant contribution to the formation of knowledge through his or her own research.
- the ability, in both national and international contexts, to present and discuss research and research findings authoritatively in speech and writing and in dialogue with the academic community and society in general.
- the ability to identify the personal need for further knowledge.
- the capacity to contribute to social development and support the learning of others both through research and education and other qualified professional work.
- intellectual autonomy and disciplinary rectitude as well as the ability to make assessments of research ethics.
- specialised insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used.

(translation of the Higher Education Ordinance, Annex 2, Qualifications ordinance; Doctor of Philosophy).

Appendix 2 – impartiality of examination committees and faculty opponents

Lund University is a public authority. Matters regarding partiality are laid down in the Swedish Code of Statutes (2017:900, sections 16 and 18). The issue of examination committee and faculty opponent partiality applies to relationships between examiners/opponent and the respondent/supervisors. The faculty opponent and the members of the examination committee are obliged to declare any partiality in relation to the respondent or the supervisors of the respondent.

Circumstances that may constitute partiality include^{*)}:

- Past, present or future joint academic close relations such as
 - recent co-authorships
 - close research collaborations
 - Professional friendship/enmity
- Family ties or other private relationships between the involved parties
- Joint interests in companies/associations/organisations that may have an interest in the outcome of the thesis defence

Note that joint academic relations do not automatically imply partiality. Such conditions also depend on the extent of collaboration and/or how long ago such collaboration occurred. General work-related friendship or scientific disagreement are not necessarily grounds for partiality. This is, however, based on the requirement that the opponent/committee member takes a professional, neutral and impartial approach concerning the respondents' performance. As is evident from the above, concrete steps must be taken to ensure that there is no doubt regarding the impartiality of the partners concerned. In summary, if you think there is a risk of partiality, please contact the designated chair of the thesis defence, so that the host department can assess the situation.

^{*)} *Examples of situations that are regarded partial and non-partial are provided in the LTH document Dnr U 2019/221 of March 26th2019 (in Swedish).*