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Extent of the doctoral dissertation

At Aalto University, the goal is for the doctoral students to complete their degree in four years of full-time study, during which they complete the required doctoral studies and write a doctoral dissertation to be examined in a public examination of a doctoral dissertation. For this goal to be feasible, the workload of the degree shall be proportionate to the objective duration of studies. This shall be taken into account in the course of the supervision of the doctoral student.

General quality requirements of dissertations at Aalto University

- A doctoral dissertation shall contain new scientific knowledge in the field it represents.
- The doctoral dissertation must present the new results clearly and in a manner meeting the criteria set for scientific texts.
- The independent contribution to the research shall be sufficient and clearly demonstrable.
- The research methods used shall fulfill the criteria set for scientific research.
- A doctoral dissertation shall conform to the principles of responsible conduct of research and adhere to ethically sustainable principles.

Forms of dissertations

An approved doctoral dissertation may be:

1. Monograph
2. Article-based doctoral dissertation
3. Essay-based doctoral dissertation
4. Other work which meets corresponding scientific criteria (until 31 July 2020)

A publication consisting of separate publications or manuscripts shall meet the scientific criteria for a doctoral dissertation when evaluated as an entity.

1. Monograph

A monograph is a coherent writing based on the work of the doctoral student and written by the student. The monograph may contain references to previous works by the doctoral student on the same topic. The independent contribution of the student must be described.

The doctoral dissertation describes the research problem, the research goals, the used methods and results, and presents a summary of the key findings. The summary shall assess the significance of the study for the discipline.

Examination: Examining a monograph requires particular precision and carefulness, since the content is examined as something new.

2. Article-based doctoral dissertation

An article-based doctoral dissertation consists of a set of publications on a related set of problems, and a summary of the findings.

The articles included in the doctoral dissertation are published or submitted for publication in an acknowledged peer-reviewed forum in the discipline (for example a scientific publication series, conference proceedings or other work). Articles not yet accepted for publication can also be included in the doctoral dissertation. The number of publications required for the dissertation depends on their extent, scientific significance and quality as well as on the weight of the independent contribution of the doctoral student to the publications.
The articles may also include co-authored publications if the author's independent contribution to them can be demonstrated. An article can be included in several dissertations if the separate contribution of the doctoral student can be demonstrated.

The summary of the article-based doctoral dissertation is an independent entity, which provides an overview of the dissertation contents. The summary shall describe the research problem, research goals and methods, and presents a summary of the key findings. The summary shall assess the significance of the study for the discipline. The summary shall contain a list of the publications included in the dissertation and describe the independent contribution of the student in each publication separately.

Examination: In an article-based dissertation, all or some of the articles have already undergone peer review. The examination is thus directed with particular precision and carefulness on the unpublished manuscript and on the summary.

3. Essay-based doctoral dissertation

An essay-based doctoral dissertation consists of scientific essays and a summary. The essays and the summary shall deal with a single research problem or set of problems.

Each of the essays shall contain new results and viewpoints, and shall primarily be based on independent research by the author, but also collaboratively written essays may be accepted as part of the doctoral dissertation.

The number of essays required depends on their extent, scientific significance and quality as well as on the weight of the independent contribution of the author to the essays.

The summary describes the research problem, research goals and methods, and presents a summary of the key findings. The summary shall assess the significance of the study for the discipline. The summary contains a description of the independent contribution of the author in each of the essays.

Examination: In an essay-based dissertation, the examination is directed with particular precision and carefulness on the unpublished essays and on the summary.

4. Other works meeting corresponding scientific criteria (until 31 July 2020)

At its discretion, the school may also approve as a doctoral dissertation some other work meeting corresponding scientific criteria.

As of 1 August 2020, the accepted forms of theses are monographs, article-based dissertations and essay-based dissertations. A period of transition is one academic year, until 31.7.2021. On reasonable grounds, a dissertation manuscript of form 'Other works meeting corresponding scientific criteria' can be submitted for pre-examination before this. (Curriculum for Aalto Doctoral Programme in Science 2020-2022)

Open access

The doctoral dissertations of Aalto University are published in compliance with the Aalto University open access principles. Open access to doctoral dissertations is made possible by the authors depositing their work in the open access repository maintained by Aalto, Aaltodoc. Aalto Current Research Information System (ACRIS)

From academic year 2019-2020 onwards, personal information of those doctoral students who enrol as attending is transferred to Aalto Current Research Information System (ACRIS). More information.

References, copyrights and responsible conduct of research

If the dissertation contains material that has already been published (such as pictures) the doctoral student should refer to it appropriately and obtain the required copyrights. Copyrights should also be obtained for the separate publications included in an article dissertation. Publications in an electronic form should be equivalent in content with the printed publications.

Finnish Advisory Board on Research Integrity: Responsible conduct of research.

Turnitin - help for skilful writing and prevention of plagiarism

The idea of scientific writing with references and source information is to show your own contribution (new research results) in relation to what was already known.

The requirement is that you write in your own words and give credit to the authors of the sources you have utilized. Besides being a skill, this requirement is also an ethical principle. Disregarding this principle means for example unacknowledged borrowing or plagiarism. Because plagiarism is not accepted in dissertations sent for pre-examination, it is worth practicing and making sure beforehand that your text is following good practices of academic writing.

It is highly recommended to utilize Turnitin in order to identify unintentional and intentional plagiarism.

How to start using Turnitin?
The most fruitful way of taking advantage of Turnitin is to use it in co-operation with your supervising professor. You can check if your supervising professor already has a workspace in MyCourses. If your supervising professor doesn’t have a workspace, he/she can order a ready-made personal workspace for thesis supervision.

1. Draft versions of the dissertation

The purpose of using Turnitin for draft versions of the dissertation, is to improve the scientific writing of the doctoral student and to prevent unpleasant surprises later in the process.

- The doctoral student submits a draft version of the dissertation in a “Draft” activity in MyCourses.
- If your supervising professor doesn’t have a workspace, he/she can order a ready-made personal workspace for thesis supervision.
- The supervising professor can utilize the Turnitin report for assessing the draft. At the same time she/he can also give feedback to the doctoral student with the Turnitin feedback tools or with some other preferred tool.
- The doctoral student revises the draft with help of the Turnitin report and the feedback from the supervising professor.
- It is also possible to get a Turnitin similarity report on your draft on your own.

2. Final version of the dissertation to be sent for pre-examination

The purpose of using Turnitin on the final version of the dissertation manuscript to be sent for pre-examination is to check that the dissertation sent to the pre-examiners doesn’t contain plagiarism.

- The doctoral student submits the final version of the dissertation for pre-examination again in the "Draft" activity in MyCourses.
- The supervising professor interprets the Turnitin similarity report at the same time as she/he assesses other aspects of the content.
- If the interpretation of the Turnitin report indicates plagiarism, a procedure of handling plagiarism is started (this unfortunate step is unlikely if Turnitin has been used with the drafts version).
- The supervising professor fills in the Turnitin report ID on the pre-examination form and the pre-examiners are informed that the dissertation has been checked for plagiarism.

3. The final version of the dissertation to be published (permission for public defense has been granted)

The purpose of Turnitin usage for the final version of a dissertation/thesis is bipartite:

- to make sure again that there is no plagiarism in the final version (if the previous steps are done with Turnitin this is barely needed).
- to secure that the dissertation is protected against plagiarism by others in future. Technically, the aim is to make sure that the final version of the dissertation will be indexed in the Turnitin repositories one way or another:
  - a dissertation published in Aaltodoc will automatically be indexed into the Turnitin repositories (most cases).
  - if the dissertation is not published in the Aaltodoc (e.g. in cotutelle cases) the doctoral student should submit the final published version of the dissertation in the "Version for grading" activity in MyCourses. In this activity the submission is archived in Turnitin student papers repository.

Guidelines

- Turnitin - help for skilful writing and prevention of plagiarism
- Aalto University Code of Academic Integrity and Turnitin usage includes the handling procedure in the case of suspected plagiarism

Layout and templates for Aalto doctoral dissertations

You can use word or LaTeX template when writing your dissertation text. Templates are available in Aalto webpages (requires login).

Supervision of doctoral student

The School appoints to each doctoral student a supervisor and a thesis advisor. Their role is significant in starting the studies and research as well as in the final phases. They support and encourage the doctoral student, help with financing arrangements and also contribute to the doctoral student’s career planning. The supervising professor is in charge of the doctoral student’s studies and research in their entirety. S/he should see to that the general arrangements for successful studies and research are adequate.

The supervising professor may delegate to the thesis advisor some of the duties listed below, or act himself/herself as a thesis advisor. The duties are agreed upon in the doctoral student’s supervision plan.

The doctoral student may have several thesis advisors at different stages of the research, e.g. if the chosen methodology requires external expertise.

Duties of the supervising professor and thesis advisor

Aalto University Academic Affairs Committee, 20 December 2011
The supervising professor is in charge of the supervision arrangements for the doctoral student. The supervising professor is obligated to supervise those doctoral students who have enrolled as attending doctoral students, who have progressed in their studies according to their personal study plan, and who report on the progress of their studies on a regular basis. The supervising professor may either assign some of the duties mentioned below to the thesis advisor. The thesis advisor shall hold a Doctor of Science (Technology) or a similar academic doctoral degree. What is said below of the duties of the supervising professor shall apply, as appropriate, also to the thesis advisor, where compliant with the division of responsibilities specified in the plan.

### The responsibilities of the supervising professor are:

- The supervising professor is responsible for the supervision of the doctoral student and supports the implementation of the financing plan. The supervising professor provides guidance in the execution of the research and instructs the doctoral student in critical and independent thinking in research and artistic activities. The supervising professor encourages the doctoral student to actively publish his/her research results in the publication forums of the field of research in question, and guides him/her in publication writing. The supervising professor supports and encourages the doctoral student.

- The supervising professor is also responsible for ensuring that full-time doctoral students are not burdened excessively with duties other than doctoral research work. Participation in teaching is recommended for doctoral students and may be obligatory for the doctoral students employed by Aalto University (this is determined in the working contract).

- The supervising professor goes through the personal study plan of the doctoral student, which includes a plan of executing the research work. In addition, the supervising professor follows up on the progress of the doctoral studies and that of the research work on a regular basis: the supervising professor and the student discuss the progress of the studies on a regular basis, and the personal study plan is updated accordingly as necessary. At minimum, the plan is checked once a year. This follow-up requirement concerns full-time and part-time doctoral students in doctoral programmes.

- The supervising professor is responsible for ensuring that the doctoral student is aware of good scientific practice and the ethical principles followed in his/her field of research as well as of the regulations concerning immaterial property rights, and monitors that the student adheres to such principles. To this end, the supervising professor and the doctoral student have a discussion at the start of the supervision relationship in order to look into the questions of research ethics and related practices relevant to the work of the doctoral student. (Responsible conduct of research, guidelines by the Finnish National Board on Research Integrity)

- The supervising professor is responsible for ensuring that the doctoral student is aware of the requirements for a doctoral dissertation and of the stages included in the preliminary examination and the public examination of the dissertation.

- The supervising professor assists the doctoral student in career planning, and ensures that the doctoral studies and research process equip the doctoral student with not only research skills but also transferable skills.

### Rights and responsibilities of doctoral students

**Aalto University Academic Affairs Committee, 20 December 2011**

When starting doctoral studies, the doctoral student commits to long-term and goal-oriented study and research. The doctoral student has a right to study in accordance with the personal study plan and to receive knowledgeable guidance in his/her studies on a regular basis. In return for such guidance, the doctoral student commits to studying in accordance with the confirmed study plan and to receive knowledgeable guidance in his/her studies on a regular basis: the supervising professor and the student discuss the progress of the studies on a regular basis, and the personal study plan is updated accordingly as necessary. At minimum, the plan is checked once a year. This follow-up requirement concerns full-time and part-time doctoral students in doctoral programmes.

In addition, the doctoral student commits to acting in compliance with the guidelines of the Finnish National Board on Research Integrity on good scientific practice.

### The responsibilities of the doctoral student are:

- preparing, in collaboration with the supervising professor, a personal study plan for doctoral studies at the start of the doctoral studies and updating it as necessary;

- negotiating with the supervising professor on the choice of research topic and preparing a thorough research proposal under the supervision of the supervising professor; giving an account of the objectives, contents, methods and schedule of the research;

- familiarising him/herself with the ethical principles of scientific research and acting in compliance with good scientific practice in his/her research;

- carrying out research independently and in a self-directed manner in accordance with the research proposal and within the limits of the research project, and actively publishing results in the publication forums of the field;

- providing teaching related to the research field and communicating the results of his/her research to others;

- aiming at, together with the supervising professor, securing funding for the doctoral studies;

- reporting on the progress of the research to the supervising professor on a regular basis;

- notifying the supervising professor of any changes necessary to the study plan, or of any problems with following the plan and

### Supervision plan
Doctoral students admitted to doctoral education are required to prepare a personal study plan including at least the theoretical studies and a plan of the execution of the research. Also the supervision practices are agreed upon at the start of the doctoral studies. It is recommended that the supervising professor, thesis advisor(s) and the doctoral student make a written supervision plan where they agree on the responsibilities, rights and obligations of each party involved in the doctoral training process.

At the School of Science the supervision plan is required and shall be made when applying to doctoral studies. The supervision plan shall be updated as necessary, e.g. in cases where supervising professor or thesis advisor changes.

Supervision plan

Supervision plan, if the doctoral degree is divided between two schools of Aalto for the funding model

If your supervising professor, thesis advisor, research field, topic or mode of study changes

- If your supervising professor, thesis advisor, research field, topic of the thesis or mode of study (full-time/part-time) changes, the change has to be confirmed officially by the Chair of the Doctoral Programme Committee.
- To confirm the change of supervising professor, thesis advisor, research field, topic, or mode of study, this form with the required appendices (see below) must be submitted to the Student Services of the Doctoral Programme.
- Required appendices:
  - Change of supervising professor or thesis advisor: supervision plan
  - Change of research field:
    - if the topic changes as well: research plan
    - if the supervising professor and/or thesis advisor(s) change as well: supervision plan
    - if only the name of the research field changes, i.e. you update your old research field to a new (for example from Software Engineering to Computer Science): no appendices
  - Change of topic: research plan
  - Change of mode of study from part-time to full-time: supervision plan and research plan (including funding plan)
  - Change of mode of study from full-time to part-time: no appendices

Templates for supervision plan and research plan are available on page "How to apply" ("Application form and its appendices")

- If your studies have not been confirmed, please fill in also the study plan-form.

If collaboration with your supervising professor does not work

If the collaboration with your supervising professor does not work, you can always contact the students services of the doctoral programme and discuss how to proceed. Here are a few choices:

- Discuss with your supervising professor about it
- Ask if you could get an additional thesis advisor (e.g. if your professor is too busy).
- Discuss with HR at your department or the Head of the department
- Discuss with the Head of the Doctoral Programme in Science