

Subject-specific regulations for cumulative doctoral examinations – Department of Computer Science

The Doctoral Degree Regulations of the Faculty of Mathematics and Natural Sciences mention a number of conditions which must be observed when writing a doctoral thesis and also particularly apply to the doctoral subject of computer science. Moreover, subject-specific regulations and recommendations apply to doctoral students of computer science.

The Faculty's Doctoral Degree Regulations permit "cumulative doctoral theses" in place of the common "monographic" doctoral theses. Cumulative doctoral theses do not constitute the regular form of doctoral theses in computer science. The following conditions, explanatory to the requirements of § 7 Doctoral Degree Regulations, apply to cumulative doctoral theses in computer sciences:

a) Parts of texts which belong to a doctoral thesis

Co-authors may write parts of the submitted text when a cumulative doctoral thesis is compiled. The doctoral student must make it unambiguously clear which contributions to the content of the submitted doctoral thesis are attributed to him/her, and which were made by his or her co-authors. It is not sufficient to indicate simply a percentage.

b) Completeness of the doctoral thesis

The number of pages is not strictly limited when writing a monographic doctoral thesis. Therefore, the doctoral thesis must include all relevant texts and data, also as annexes where applicable. Journals or contributions to conferences should however be kept to a minimum. This may result in the absence of important parts of texts, such as software programs or complete documentation. In any case, the submitted doctoral thesis must include these parts in an appropriate manner.

c) Consistent terminology and notation

When writing a monographic doctoral thesis, it is a standard requirement that one and the same term or issue is named and denoted in the same way throughout the entire work. Accordingly, different terms and issues are named and denoted differently. These principles may be disregarded when writing a cumulative doctoral thesis due to individually produced, supporting publications. The doctoral student must explicitly discuss and expose such differences. He or she is not permitted to ask the assessors to discover and bridge such differences.

d) Common theme of the doctoral thesis

A monographic doctoral thesis has a common theme ("thread") which runs through the entire text. Several publications may only contribute to a single cumulative doctoral thesis if they – in the order selected by the doctoral student – also have such a common theme. The doctoral student must make this common theme evident.

e) Area surrounding the research topic

A monographic doctoral thesis situates the topic of the doctoral thesis in a – certainly larger – selected area, discusses alternatives to the chosen approach, and, if applicable, traces historical lines of development. In the publications of a cumulative doctoral thesis, there is usually a lack of space to include such considerations. However, the submitted doctoral thesis must, in any case, situate in detail the work in its area.

f) Structure of a cumulative doctoral thesis

In order to meet the conditions specified in a) to e), the following structure is recommended:

After one or several introductory chapters, each publication is dealt with in a separate chapter. Each of these chapters begins with a “bridge” from the previous chapter to the publication incorporated in the new chapter. The publication itself follows. Publications that have already been published are printed in the layout of the respective journal or the conference proceedings and are, therefore, clearly separated from the rest of the text. Publications which have been accepted for publication, but are yet to have been published, are presented in a layout which differs from the normal layout of the work. It must be clearly evident, in each part of the text, whether that text belongs to the framework of the work, or to one of the publications incorporated. The work ends with further concluding considerations.

g) Quality of supporting publications

Cumulative dissertations place high demands on the quality of supporting publications. The responsibility to evaluate this quality lies with the assessors who are in no way bound by a previous peer-review process.