

Guidelines „Cumulative Dissertation“

The following two regulations have to be observed:

(I) From the current “Rules for the award of doctorates at TU Darmstadt” from 2018:

§ 9, Par. 4: It is possible to submit a cumulative dissertation comprising multiple different publications if this is permitted in the specific regulations for the department. However, the student has no legal right to submit this form of dissertation. The cumulative dissertation must be preceded by a detailed synopsis that presents the scientific framework and classifies the individual publications within the overall context. The specific regulations will govern the specific design of the cumulative dissertation and cover, in particular:

- *The design of the synopsis about the sections of the dissertation;*
- *The minimum number of publications that need to be included and the requirements for the publication status (at least a letter of acceptance from the publisher);*
- *As well as the possibility of co-authorship.*

The publications must have been in peer-reviewed academic publications. A declaration is required from the referees of the doctoral examination procedure that they were not involved in the review process for the publications.

§ 9, Par. 5: If the publications submitted in the cumulative dissertation were not solely authored by the doctoral candidate, a declaration signed by the doctoral candidate, all co-authors and also the academic supervisor (generally the referee) must be submitted that allows the independent work of the candidate to be assessed based on understandable criteria and thus enables a clear distinction between each author's contribution to the publications. The contribution made by the doctoral candidate to each publication must be explicitly stated. A cumulative dissertation is excluded for doctoral candidates in the sense of § 7 (5) b) and § 7 (5) c). The regulations for initiating the doctoral examination procedure and the dissertation must be fulfilled by all sections of the cumulative dissertation.

(II) From the Special provisions stipulated by the Materials Science and Geosciences Department from 2022:

Amendments to § 9, Par. 4:

(1) If research accomplishments are documented through several publications, the dissertation can be formed out of several scientific publications and submitted as a cumulative dissertation.

(2) The parts of a cumulative dissertation must have a connection with regards to content. This connection has to be demonstrated conclusively by a common introduction and a synopsis of the publications with discussion and summary.

(3) The dissertation shall consist of at least three publications or accepted manuscripts. The doctoral candidate has to represent at least two of these works as first author and be responsible for the predominant part of these manuscripts.

(4) The publications have to take place in international, scientific and specialist-reviewed professional journals with peer-review system.

(5) The referee reports must contain a statement about the quality of the journals.

(6) The publications shall not be older than 5 years at the time of submission of the dissertation.

The following explanations should help when interpreting the above regulations:

- a) Design of the common introduction and synopsis (Greek: “outline”): The introduction should motivate the work and put it into a general perspective. Then should follow a summary of the research state of the art that contains all relevant literature findings concerning the subject of the dissertation. The synopsis should summarize all essential hypotheses and results of the dissertation and compare them with the research state of the art. Thus, it should be possible to grossly evaluate the research accomplishments by only studying the synopsis, while the included publications contain the details of the results.
- b) A dissertation differs from a scientific publication including but not limited to the fact that methodical developments (algorithms, experimental setups etc.) are documented at length, while this is not typical for a publication.
- c) The included publications may either be embedded into the TU Darmstadt typeset of the whole dissertation or the typeset of the respective professional journal may be used. The doctoral candidate is responsible for observing the publication rights of the journals.