

The present English translation of the official document „Richtlinien mit positiven Kriterien für die Festlegung der Doktorgrade und die dazugehörigen Qualitätssicherungsmaßnahmen gemäß § 3 Abs. 2 der Promotionsordnung des Promotionszentrums NITRO der Hochschulen TH Augsburg, TH Deggendorf und HaW Landshut“ is not legally binding and serves for information purposes only.

**Guidelines with positive criteria
for the awarding of doctoral degrees and the associated quality assurance measures
in accordance with section 3 para. 2 of the doctoral regulations of the NITRO doctoral center
of the universities TH Augsburg, TH Deggendorf and HaW Landshut**

from January 10, 2025

Preamble

In accordance with section 3 para. 1 of the doctoral regulations (PromO), the NITRO doctoral center may award the doctoral degrees

- Doctor of engineering sciences (Dr.-Ing.)
- Doctor of Natural Sciences (Dr. rer. nat.)

According to section 3 para. 2 PromO, the Presidential Board of the TH Augsburg, in agreement with the TH Deggendorf as well as the HaW Landshut and the steering committee of the doctoral center, adopts guidelines with positive criteria for determining the respective doctoral degree and the associated quality assurance measures. These are the basis for the justification of the desired doctoral degree according to sections 15 & 16 PromO (opening of the doctoral procedure).

1. Criteria for the awarding of the doctoral degree Dr.-Ing.

Subject of research

The object of research has a clear reference to engineering science, although interdisciplinary topics are also welcome, provided that an engineering aspect is the central focus of the research:

- Questions can be related to materials, machines, equipment, processes and/or products, but do not have to be exclusively so.
- Research can include the analysis and improvement of existing technology as well as the development of future, potentially feasible technology.
- Knowledge-oriented and action-oriented parts are equally possible, whereby the investigation in the sense of a contribution to the practical applicability or feasibility of technical aspects should be in the foreground.
- Technological issues can also be examined in conjunction with economic, ecological, social or psychological aspects, provided that a technical core reference is maintained.

Methodology

The methodology aims to generate systematic and applicable knowledge. The focus is on understanding cause-and-effect relationships:

- Experiments, modeling or simulations are planned, carried out and statistically analyzed in order to generate reliable and comprehensible results.
- The research methodology can be experimental, theoretical, empirical or model-based. Combinations of these approaches are expressly encouraged.
- The results must be reproducible.

Objective of the research

The research should make an original contribution to engineering knowledge and/or contribute to solving scientific and technical problems. Possible focal points are

- Analysis and improvement of materials, procedures, processes, technologies or systems.
- Development of new methods, models or other engineering tools.
- Interdisciplinary approaches to solving complex technical and social challenges by combining technical and non-technical disciplines.

2. Criteria for the awarding of the doctoral degree Dr. rer. nat.

Subject of research

The object of research has a clear reference to the natural sciences, although interdisciplinary topics are also welcome, provided that a scientific aspect is the central focus of the research:

- Questions should serve to gain new, scientifically sound insights that go beyond the current state of knowledge.
- Scientific hypotheses should be tested and critically evaluated.
- Scientific questions can also be examined in connection with economic, ecological, social or psychological aspects, provided that a scientific core reference is maintained.

Methodology

The methodology aims to systematically gain knowledge:

- Experiments, modeling or simulations are planned, carried out and statistically analyzed in order to achieve reliable and comprehensible results.
- The research methodology can be experimental, theoretical, empirical or model-based. Combinations of these approaches are expressly encouraged.
- Measurements, analyses or modeling are carried out with the aim of identifying regularities. The selected methods ensure that the results are reproducible and comprehensible.

Objective of the research

Research should make an original contribution to scientific knowledge and/or the practical application of scientific principles. Possible focal points are

- Expansion of knowledge in a scientific subject area.
- Development of new experimental methods or instruments.
- Interdisciplinary approaches to solutions in which scientific findings are combined with other disciplines.

3. Quality assurance measures for the awarding of doctoral degrees

At least one reviewer should hold the title to be awarded or an internationally recognized equivalent. For the award of the Dr.-Ing., this reviewer may also hold the title Dr. rer. nat. Alternatively, the qualification of the reviewer for the award of the respective doctoral degree can be based on their own high-ranking scientific publications in the subject area of the degree to be awarded. This publication record of the reviewer must at least meet the requirements of a doctorate in this subject area and be reviewed and confirmed by the doctoral committee. In the case of a recommendation for the award of the desired doctoral degree, each review must contain an explicit formulation of the following kind: "The thesis meets the criteria for the award of the [Dr.-Ing./Dr. rer. nat.]. I recommend the acceptance of the thesis and the continuation of the procedure to obtain the degree [Dr.-Ing./Dr. rer. nat.]."