

KANDÓ KÁLMÁN DOCTORAL SCHOOL

QUALITY ASSURANCE PLAN

Name of institution:	BME Faculty of Transportation Engineering and Vehicle Engineering Transport and Vehicles Sciences Habilitation Committee and Doctoral Council
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I. Relevant laws and regulations

The principles and methods of the quality assurance of the doctoral program and PhD degree acquisition are laid down in the BME Doctoral and Habilitation Regulations (BME DHSZ), the BME Code of Studies and Exams (BME TVSZ), the Operational Regulations and the Study Plan of the Kandó Kálmán Doctoral School. The requirements described below are partly overlapping and partly go beyond these, and they do not cover the mandatory quality assurance elements appearing in the related legislation (2011 CCIV act on National Higher Education, Doctoral Schools (Nftv.), 387/2012. (XII.19) Government Decree on doctoral schools, the order of doctoral procedures and habilitation and the doctoral program and degree acquisition of the Hungarian Accreditation Committee (MAB).

II. Introduction

This quality assurance regulation of the Kandó Kálmán Doctoral School (Doctoral School) plans to achieve a stable and high level of quality Doctoral School through the regulation of six priority phases of doctoral program and PhD degree acquisition. These priority phases are:

1. Announcement of doctoral topics,
2. Selection of the supervisor,
3. Admission to the doctoral program,
4. Subjects of the doctoral program,
5. Monitoring the progress of PhD students,
6. Requirements of obtaining the PhD degree,
7. PhD degree acquisition procedure,
8. Follow-up of graduated PhD students.

III. Announcement of doctoral topic

The doctoral topic is a research subfield that is suitable for a PhD student - under the guidance of the supervisor - to achieve the ability of using scientific methods, obtain evaluable scientific results and provide certainty in the form of scientific publications, scientific presentation and the doctoral dissertation. The doctoral topic is approved by the Doctoral School Council (DIT).¹

The Doctoral School requests PhD topic proposals from the departments participating in program every semester. Each topic proposal must be defined in detail, the possibility of its thorough discussion and explanation in the doctoral dissertation must be examined and justified by the proposed supervisor of the topic.

As part of the topic proposal, the possibility for publishing in this research area (listing specific elements, for example journal, conference, scientific presentation), the infrastructural conditions, as well as the financial background and resources should be defined.

The topic proposals to be announced must be separate, well-defined subfields. Topic proposals, for which an applicant has been admitted to the Doctoral School, may not be re-announced. The Doctoral School Council (DIT) examines the topic proposals and decides on the

¹ 387/2012. (XII. 19.) Government Decree 13. § (1)

announcement of the doctoral topic. The doctoral topics approved by the DIT are available on the www.doktori.hu website and on the website of the Doctoral School.

IV. Selection of the supervisor

The proposed supervisor is a lecturer or researcher with a PhD degree, whose topic proposal announcement was approved by the DIT. Research activity is an expectation towards the proposed supervisors: the indicators of scientific publications within the last 5 years preceding the announcement of the topic proposal should exceed the requirements of the Doctoral School for obtaining a PhD degree. The proposed supervisor must have at least 2 years professional experience after obtaining his/her PhD degree. If the proposed supervisor reaches the maximum age of full-time employment within 3 years from the beginning of the doctoral program, the condition for announcing the topic is to assign a substitute supervisor.

Those proposed supervisors, who had not any PhD students obtaining the PhD degree yet, are expected to exceed the publication requirements of the Doctoral School for obtaining a PhD degree in terms of the indicators of scientific publications within the last 3 years preceding the announcement of topic proposal.

The proposed supervisor may be a full-time lecturer or researcher of the university with a scientific degree in a permanent position, or a professor emeritus of the university, or a full-time employee of an institution that has a written cooperation agreement with BME to achieve the aims of the doctoral program (external supervisor). Besides to the external supervisor, the DIT appoints a supervisor, who assists the external supervisor's work and monitors the student's professional progress.

If justified by the research topic, an invited supervisor can be requested based on the suggestion by the DIT, and the permission of the EHBBDT, considering that the PhD student works at the university and a supervisor is assigned.

In the case of part-time employment, a doctoral topic can only be announced as an invited supervisor. The invited supervisor must also meet the above mentioned requirements.²

Those proposed supervisors become supervisors, whose PhD students are admitted to the announced topic and enroll to the Doctoral School. Each PhD student has one and only one supervisor, who manages and assists the PhD student with full responsibility working on the studies, research work, and preparation for the PhD degree acquisition procedure. Dual supervision is only possible in case of a program in the framework of an international cooperation or in case of an interdisciplinary research based on that the topic is accepted by the DIT and published with the prior consent of the EHBBDT.³

A supervisor can supervise the work of maximum four PhD students at the same time, regardless of the Doctoral School (the beginning of the evaluation phase (the submission of the doctoral dissertation) removes this restriction). DIT can only waive the conditions for the supervision with the consent of the EHBBDT.

Information about the proposed supervisors and supervisors is available on the www.doktori.hu website and on the website of the Doctoral School.

The name of the supervisor(s) must be clearly indicated on the title page of the doctoral dissertation. This must match the name of the supervisor(s) approved by the DIT, written on the thesis booklet, and data uploaded to the database of the National Doctoral Council (on the

² BME Doctoral and Habilitation Regulation DHSZ 10. § (3), (4), (5)

³ BME Doctoral and Habilitation Regulation DHSZ 10. § (6)

www.doktori.hu website). The doctoral topic or the supervisor may be changed by the DIT for the period ahead, either by the request of the PhD student or in appropriate cases by its own competence. The DIT asks for the opinion of the head of the supervisor before making a decision. If the name of the supervisor changes for any reason, the DIT decides on the name of the supervisor(s) to be indicated in the dissertation.⁴

V. Admission to the doctoral program

The doctoral program is available to students, who have at least a well-qualified master's degree, and at least a type „C” intermediate (B2 level) complex language or an equivalent language exam approved by the government.⁵

The Doctoral School announces the call for applications every semester, which contains the topic proposals, and the formal and content requirements for admission to doctoral program.

The applicants have to take part in an admission interview. The purpose of the interview is to check the appropriate readiness, and create a ranking for the admission. The interview happens in front of the admission committee assigned by the Doctoral School. The condition for participation in the admission interview is to ensure a written willingness to accept the PhD student by the supervisor and the host unit (department or external institution).

The admission process is controlled by a number of individuals and committees of the Doctoral School and the Faculty. Based on the report of the admission committee, the Doctoral School proposes to the Dean of the Faculty the admission and the award of state scholarships. Admission decisions are made by the Dean of the Faculty.

Individually prepared students may also participate in the doctoral program, provided that they have fulfilled the requirements of the admission and the doctoral program. In this case the student status is established by accepting the initiation of the PhD procedure and passing the complex exam. Individually prepared students can receive scholarship according to the decision of the Dean, based on the DIT proposal (containing the report of the complex exam committee).⁶

VI. Subjects of the doctoral program

The Doctoral School decides on the acceptance of the subjects for the program and on the renewal of the offer before each semester. The subjects of the doctoral program are reviewed at least in every three years.

The teaching sufficiency is constantly monitored by the Doctoral School. The instructors of the Doctoral School are teachers and researchers with a scientific degree, who are considered suitable for teaching in the doctoral program, conducting research and supervising PhD students by the Doctoral School based on the proposal of the head of the Doctoral School. The subjects of the Doctoral School can be found on the website of the Doctoral School.

VII. Monitoring the progress of PhD students

⁴ BME Doctoral and Habilitation Regulation DHSZ 10. § (9) és (10)

⁵ National Higher Education Government Decree Nftv. 40. § (6)

⁶ BME Doctoral and Habilitation Regulation DHSZ 14. § (4)

The academic performance and research progress of the PhD students are assessed every semester by the Doctoral School Council (DIT). The report should contain a summary of the study and research results (including publications, conference and seminar presentations, teaching activity during the program). The template of a written semester progress report is available in the Annex 3 of the Study Plan of the Kandó Kálmán Doctoral School. The semester progress report must include the evaluation of the supervisor. The committee creates a written evaluation based on the written and annual oral reports of the PhD students.

In the case of a complex exam, a detailed evaluation of the supervisor is absolute necessary for monitoring the progress of the PhD students.

At the end of the sixth semester of the doctoral program, in addition to the evaluation of the submitted semester progress report, the DIT thoroughly monitors the progress of the PhD students. This includes the detailed assessment of the supervisor on the scientific performance of the PhD students, and the limitations and opportunities for submitting a doctoral dissertation on time.

The Doctoral School also separately monitors those elements of scientific performance of the PhD students that are required to initiate the PhD procedure.

VIII. Requirements of obtaining the PhD degree

The general requirements for obtaining the doctoral degree are regulated in detail by the Article 11 (17) of the BME DHSZ.

The structure of the PhD minimum requirements were developed by the HBDT and approved by the EHBDT.⁷ Besides the general requirements, the detailed PhD minimum requirements taking into account the specific features of the scientific field related HBDT must also be met.⁸ This is reviewed annually by the Doctoral School and amended, if necessary.

Publications announcing own results must be assigned to the thesis points, and the waivers from the co-authors must be requested in the form specified by the Doctoral School, except from the supervisor.

If there is a change in the PhD minimum requirements, the previous or the new requirements can be applied within 2 years based on the decision of the PhD student.

The PhD minimum requirements can be found in the PhD minimum requirements document of the Kandó Kálmán Doctoral School. In addition, the structure of the requirements (according to MAB regulations) is part of the Operational Regulations of the Kandó Kálmán Doctoral School, which is available in the database of www.doktori.hu and on the website of the Doctoral School.

⁷ BME Doctoral and Habilitation Regulation DHSZ 7.§ (7) g)

⁸ BME Doctoral and Habilitation Regulation DHSZ 17.§ (6)

IX. PhD degree acquisition procedure

During the doctoral program, after the complex exam the PhD students participates in the PhD degree acquisition procedure by completing the research and dissertation phase, which aims the PhD degree.⁹

The rules of the PhD degree acquisition procedure are described in detail in the Article 16-24 of the BME DHSZ. The entity that conducts the procedure is the Transportation and Vehicle Sciences Habilitation Committee and the Doctoral Council (HBDT).

The documents required to initiate the evaluation phase of the PhD degree acquisition procedure are available on the website of the Doctoral School.

The condition for submitting the doctoral dissertation is to obtain the *absolutoirum*.¹⁰ The doctoral dissertation must be sent to an internal defense before submission, in order to improve the dissertation and thesis points. During the discussion, the dissertation is evaluated by at least one external reviewer with a PhD degree. The conduction of the discussion and especially the opinions and findings related to the modification of the dissertation must be included in a report. The annex(es) of the report are the opinion(s) of the reviewer(s). If there is a significant revision of the dissertation requested, the internal defense must be conducted again.

After the submission of the dissertation, the members of the evaluation committee appointed by the HBDT will receive the complete material related to the PhD degree acquisition procedure. The identity of reviewers is not public until the reviews are completed. The members of the evaluation committee will receive the opinions of the reviewers after both reviewer are available, and the answers of the PhD student will be received not later than one week before the public defense. After the announcement of the public defense, the dissertation and the thesis book will be public on the www.doktori.hu website and on the website of the Doctoral School.

The dissertation sent to the reviewers cannot be modified afterwards. If the evaluation committee objects to professionally incorrect statements or does not accept thesis points, the relevant part of the committee reports have to be attached to the dissertation (also in electronic form), and the defended dissertation has to be published with this addition (library, repository).

X. Follow-up of graduated PhD students

The DI monitors the lifeway of PhD students who have obtained the PhD degree using the standardized monitoring procedure applied at the university. The DI publishes the results in its periodic self-assessments in the database of www.doktori.hu.

⁹ BME Doctoral and Habilitation Regulation DHSZ 16.§ (1)

¹⁰ BME Doctoral and Habilitation Regulation DHSZ 18.§ (1)

XI. Concluding remarks

With these points of the quality assurance plan of the Kandó Kálmán Doctoral School, the following quality assurance principles are aimed to be reached:

1. **The principle of professional control.** The control of the international and domestic professional and scientific public must be enforced through the entire process of the doctoral program and PhD degree acquisition procedure.
2. **The principle of considering ethical requirements.** During the development and operation of the quality management system, the resolutions of the Scientific Ethics Committee of the Hungarian Academy of Sciences (MTA) must be validated.
3. **The principle of publicity.** The main phases of the quality assurance system should be widely publicized to the professional and scientific public.
4. **The principle of feedback.** Instructors, supervisors, and members of different committees of the DI who are part of the doctoral program should receive continuous feedback on the quality of their activities and have the opportunity to provide feedback about their experience.
5. **The principle of quality focus.** By designing and operating a quality management system, we want to ensure that the demand level of both our PhD students and instructors for themselves and their environment continues to grow, while humility towards science becomes an integral part of their values. Also, initiative and creativity should become one of the cornerstones of their thinking.
6. **The principle of protection of intellectual property.** The development of the quality management system should also contribute to ensuring that the university doctoral program remains fully in line with the EU and Hungary intellectual property protection aspirations.
7. **The principle of enforcing individual responsibility.** Designing and operating a scientific school is a team effort, but it can only be successful if it is clear who has what roles and responsibilities in the training and research process.
8. **The principle of documenting process.** All decision points related to doctoral program should be documented.