

# **BUDAPEST UNIVERSITY OF TECHNOLOGY AND ECONOMICS**

## **Bylaws of the Doctoral School of Physical Sciences**

### **2020**

#### **General provisions**

##### **Section 1**

The current regulation has been prepared in accordance with Act CCIV of 2011 on National Higher Education, the Gov. Decree 387/2012 (XII.19.) on doctoral schools, doctoral procedures and habilitation, as well as the decision of the Hungarian Accreditation Committee (MAB) on doctoral programmes and obtainment of degrees,<sup>1</sup> in accordance with the Doctoral and habilitation procedures of BME (DHSZ) and the Academic and Examination Regulations of BME (TVSZ).<sup>2</sup>

The [Quality Assurance Regulation and Procedures](#) describing the Doctoral School's own quality assurance system and the [Training Programme](#) are available on the [Doctoral School's website](#).

#### **Establishment of the Doctoral School, Members and Organization**

##### **Section 2**

The Doctoral School of Physical Sciences (hereinafter: the Doctoral School) has been providing PhD programs since 1993; the decision on its final accreditation - in accordance with national regulations – was made by the MAB on February 22, 2002. The Doctoral School operates at the Faculty of Natural Sciences of BME (hereinafter: the Faculty).

##### **Section 3**

(1) Additionally to the regulatory requirements listed in Section 1, the core members and the personnel of the core members of the Doctoral School shall comply with the following requirements:

- a) A core member may be the following:
  - full time university professor of BME, or
  - doctor of the HAS with full time employment relationship in a research institute having a cooperation agreement with the Doctoral School, or
  - doctor of the HAS employed full time in a BME-MTA research group participating in the doctoral programme, or
  - Professor Emeritus (Professor Emerita) of BME.

b) All core members must hold “Doctor of the HAS” degree/title

(2) New core members of the Doctoral School may be co-opted based on the proposal of the core members with the consent of EHBTD.

(3) The college of core members shall be approved by the accreditation of the MAB at the time of establishment, and by its periodic review.

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<sup>1</sup> [Act CCIV of 2011 on National Higher Education](#); [Gov. Decree 387/2012 \(XII.19.\)](#); [MAB decisions](#)

<sup>2</sup> <http://doktori.bme.hu/szabalyzatok.htm>

#### **Section 4**

The Head of the Doctoral School shall be a full time professor of the University employed in a public servant status, highly recognized in science, holder of “Doctor of the HAS” degree/title, core member of the given doctoral school, and appointed by the Rector at the recommendation of the EHBDT. The term of office is maximum three years, and is renewable without limitations up to the statutory age of 70.

#### **Section 5**

(1) According to the Doctoral and Habilitation Procedures of the University, the trainings in the doctoral schools and degree award procedures shall be supervised by the Doctoral Council and Habilitation Committee of the University (EHBDT).

(2) The college supervising the functioning of the doctoral programmes shall be the Council of the Doctoral School (DIT) organized by disciplinary doctoral schools with tasks and competences established in Section 12 of the DHSZ. The [Training Programme](#) of the Doctoral School includes the model curriculum, the subjects of the complex examination and the rules of the examination. In the event that the Training Programme poses conditions non-existent in the BME DHSZ or relevant statutory regulations, or stricter than set therein, the DIT can, in specifically justified cases, grant exemption from the conditions.

(3) The college conducting the degree award procedure - within the competence delegated by the EHBDT – shall be the disciplinary Habilitation Committee and Doctoral Council (HBDT) organized by doctoral schools with tasks and competences established in Section 6 of the DHSZ.

(4) The members of the Habilitation Committee and Doctoral Council of Physics (HBDT) are highly qualified experts of the branch of science: two thirds of the members are university professors, and those members who are not appointed university professors are doctors of the HAS.

(5) Current personnel of the colleges of the Doctoral School of Physical Sciences – core members, DIT and HBDT – as well as the summary of the members’ professional achievements of the members can be viewed on the [www.doktori.hu](http://www.doktori.hu) web pages, and on the websites of the University and the Doctoral School.

(6) Responsibilities and the way of decision making are regulated by Sections 6 and 12 of the BME DHSZ. In need of an urgent decision which does not allow the convening of the session of the college, or if the topic does not require the decision of the session, the opinion of the voting members of the college can also be collected electronically in matters to be decided by public voting, as listed in Annex 1.

#### **Section 6**

Mandates per Sections 4 and 5 shall be terminated:

- a) upon expiry of the mandate,
- b) upon recall through the same procedure applied in the assignment,
- c) upon resignation of the trustee,
- d) upon persistent incapacitation or death of the trustee.

## **The Functioning of the Doctoral School**

### **Section 7**

The operations of the Doctoral School shall be managed by the Head of the Doctoral School – with the administrative support from the Dean’s Office of the Faculty.

### **Section 8**

(1) The Doctoral School requests topic proposals and announces PhD topics every year. The DIT decides on the acceptance of topics and the identity of supervisors. The topics shall be announced on the Doctoral School’s website and on [www.doktori.hu](http://www.doktori.hu) web pages.

(2) The supervisor shall have at least 2 years' professional experience since earning the doctoral degree. A supervisor can only direct the work of up to 4 doctoral candidates simultaneously. The DIT may only give exemption from the above conditions with the consent of the EHBDT.

(3) Each doctoral student is assigned one and only one supervisor, who have full responsibility in guiding and helping the academic and research work of the doctoral candidate working on the topic, and also the doctoral candidate’s preparatory work for obtaining the degree. The dual supervisory system shall only be possible in the framework of international co-operations, or in the case of interdisciplinary topics, if the topic was approved by the Council of the Doctoral School (DIT) and the topic announcement was made on the prior consent from the EHBDT.

(4) The supervisor shall be a full time employee or Professor Emeritus of BME, or a full time employee of an institution that contracted a co-operation agreement with the BME for doctoral programmes. The DIT shall appoint an internal consultant to the external supervisor to assist the supervisor’s work on the part of BME and to monitor the professional progress of the student.

(5) The DIT may change the research topic or appoint a different supervisor/consultant in justified cases, either at the request of the supervisor/consultant or the student or on an autonomous basis. If any of the aforementioned changes is requested by the supervisor/consultant or the student, the request must be submitted in writing, together with the appropriate justification. Before making a decision, the DIT shall seek the opinion of the supervisor of the supervisor at the workplace and, if necessary, may hold a hearing of the parties concerned.

(6) The lecturers of the Doctoral School shall only be university lecturers or researchers holding a degree in sciences, who are deemed appropriate and invited by the DIT to hold doctoral courses for a given period. The lecturer of the Doctoral School can be a full time employee of a domestic or foreign research facility, university, company or other institution (external lecturer) that concluded a co-operation agreement with the BME in writing to achieve the objectives of the doctoral programme.

### **Section 9**

(1) Entrance exams for topics announced according to Section 8 are organized by the Dean’s Office of the Faculty. The Admission Committee (FB) shall be appointed by the DIT.

(2) Preconditions for participating in the entrance examination include providing a proof in writing of the readiness to accept the student both on the part of the supervisor and the receiving unit (department or external institution). Formal requirements for the admission shall include a degree certificate of at least “good” qualification and a certification of English language proficiency.

(3) The FB shall honour the student’s readiness shown in the admission interview, previous academic results, language proficiency and previous professional and scientific activity with 0-100 points. The professional habitus scores that can be obtained at the entrance exam partly intended to honour the proficiency in the selected topic. The admission limit is minimum 60 points.

(4) The DIT makes recommendation to the Dean of the Faculty for admission and for state funded scholarships based on the proposal from the Admission Committee (FB). The decisions on admission shall be made by the Dean of the Faculty.

### **Section 10**

(1) In the case of students preparing individually, the degree award procedure begins on request, by applying for the complex examination and its subsequent acceptance (Section 12 in the Gov. decree 387/2012 (XII.19)).

(2) The precondition for accepting the application is the disciplinary compliance, the formal compliance with the publication and language requirements for obtaining the doctoral degree (no thesis points are required at the time of registration, therefore, instead of content evaluation, only expected numerical indicators have to be met).

(3) With the admission, the Doctoral School recognizes the minimum credits required for being admitted to the complex examination with the addition that further credits may also be recognized based on preliminary knowledge and competences at the request of the candidate.

(4) The work of students preparing individually is guided by a dedicated consultant appointed by the DIT for this task by the supervisor, not the supervisor (Section 14(4) of the BME DHSZ).

(5) The complex examination that follows the admission shall be considered part of the first semester of the research and dissertation phase.

### **Section 11**

(1) The progress and academic performance of students shall be evaluated by the DIT in every academic year based on the PhD students’ work reports. The work reports shall be submitted semi-annually and include the aggregated academic and research performance indicators (including any publications, conference and seminar lectures in relation to the PhD topic) in the form available for download from the website of the Doctoral School. The research credits proposed by the supervisor shall be approved semi-annually by the DIT. To establish the credits, the DIT may seek out the opinion of the doctoral topic owner (i.e. the department of the supervisor/consultant).

(2) As part of the annual evaluation of research performance, the results achieved during the reporting period shall be presented in a lecture form delivered on the PhD professional day. The research credits proposed by the supervisor shall be approved by the DIT based on the lecture and the professional report on the two semesters’ achievements.

(3) State-funded students who fail to show the expected progress in their studies or research work, and fail to earn 2/3 of the credits specified in the model curriculum for a given semester

may be reallocated to the private funded status by the Dean of the Faculty on the proposal from the DIT (Section 13(8) of the BME DHSZ).

(4) The doctoral candidate must complete no less than 15 credits in the active semester, otherwise his/her legal relationship with the BME shall be terminated (Section 186 (2) of the BME TVSZ).

## **Section 12**

Maintaining the registration system and completing the administration and informational tasks of the Doctoral School shall be performed by the Dean' Office of the Faculty of Natural Sciences, under observation of the relevant clauses of Sections 11–12 of the DHSZ.

## **Obtainment of Doctoral Degree**

### **Section 13**

(1) The responsible organization for conducting the degree award procedure is the Habilitation Committee and Doctoral Council of Physics (HBDT). The degree shall be awarded by the EHBDT on the grounds of the recommendation submitted by the HBDT. The requirements for the doctoral degree include the obtainment of leaving certificate and the submission of the doctoral thesis within three years of the complex examination, as well as the successful defence of the doctoral thesis in a public disputation organized by the HBDT. The three-year deadline can - in cases deserving special consideration - be extended under the authority of the DIT by a maximum of one year.

(2) The doctoral thesis shall be submitted for disputation at the workplace before submission. The purpose of the disputation at the workplace is to make corrections to the dissertation and the thesis points and to help the student prepare for the public disputation. The dissertation shall be evaluated by at least one referee holding a doctoral degree. The disputation at the workplace is not considered part of a critique procedure as yet (the dissertation can still be amended after the disputation), so the ineligibility rule does not apply to the referee(s).

(3) The content of the disputation – among them the opinions on the amendment of the dissertation in the first place – shall be protocolled. The minutes shall include a statement from the research community of direct colleagues that the achievements in the thesis points (or in the thesis points to be amended) are recognized as the candidate's independent results. The opinion(s) of the referee(s) shall be annexed to the minutes. In the event that the dissertation or the thesis points have been significantly reworked, the disputation at the workplace shall be repeated.

(4) The scientific publications containing the candidate's own results presented in the doctoral dissertation shall be assigned to thesis points, and a co-authors' waiver on the publications shall be requested in the format specified by the Doctoral School. The waiver applies to the scientific result stated in the thesis point.

(5) Upon checking if the requirements for obtaining a degree have been fulfilled, only publications assigned to thesis points shall be considered, however, not all thesis points must refer to a published or accepted publication.

(6) The doctoral dissertation can be forwarded to the referees (opponents) on condition that the publications (whether published or accepted for publication) assigned to the thesis points

fulfil the detailed publication requirements established by Doctoral School. An additional condition for the initiation of the critique procedure shall be the fulfilment of the language requirements.

(7) In the event that a student fails to submit a doctoral dissertation within three years of the complex examination in a doctoral programme starting after September 1, 2016, s/he can only obtain a degree by repeating his studies or as one preparing individually - without the indication of a supervisor (Section 14 (4) of the BME DHSZ). The three-year deadline can be extended by not more than one year in cases deserving special consideration – under the authority of the DIT.

(8) A dissertation delivered to the referees cannot be amended afterwards. In the event that the Thesis Committee objects incorrect statements or does not accept thesis points, the relevant part of the minutes drawn up by the Committee shall be attached to the dissertation (also in electronic form), and the defended dissertation shall be made public (library, repository) with this addition.

(9) The identity of the referees shall be not be made public until the critiques have been prepared. The members of the Thesis Committee shall receive the referees' opinions after both critiques have arrived, and the candidate's the comments shall be received electronically one week before the defence at the latest. The dissertation and the thesis booklet shall become publicly available on the [www.doktori.hu](http://www.doktori.hu) web pages upon the announcement of the public disputation.

(10) The currently valid publication and language requirements can be found in *Annex 2*. In the event that the requirements have changed, then either the new or the previous requirements shall be applied according the preference of the candidate within 2 years of the decision adopted about the change.

## **Final Provisions**

### **Section 14**

(1) In exceptional cases, where the requirements in the present Regulation are not established in regulations or in the regulations of BME, or exceed them, the requirements can be reduced to the lowest acceptable level established in the higher level regulation. The permission shall be granted (on a substantiated written request) by the DIT (for doctoral trainings) or the HBDT (for degree award procedures). The decision on the request shall be protocolled.

(2) The present Regulation was debated and approved by the BME EHBBDT on November 27, 2020.

The Regulation shall take effect immediately.

Budapest, November 27, 2020

Gábor Takács

Head of the Doctoral School of Physical Sciences

Annexes:

1. *Publication and language requirements for the obtainment of degree*  
(EHBDT approval November 27, 2020)
2. *Committee electronic voting*  
(EHBDT approval November 29, 2018)

## **Committee electronic voting in doctoral matters (DIT, HBDT)** Doctoral School of Physical Sciences

In need of an urgent decision which does not allow the convening of the session of the college, or if the topic does not require the decision of the session, the opinion of the voting members of the college can also be collected electronically in matters to be ***decided by public voting***, as listed above.

Decision on the voting as well as the its starting and closing date shall be made by the the head of the college. The draft decision and the justification shall be sent to each member electronically indicating the closing date of voting (year, month, day, hours) and the address of the web page showing the place of voting. Electronic voting shall not be held or it cannot be evaluated if any member of the college requests that the college be convened to debate the draft decision – no later than the closing date of the voting.

The formal conditions of electronic voting and decision making:

- identity of the voting person during decision making process and the quorum should be established beyond reasonable doubt;
- the written documentation on which the decision was made should be delivered electronically to the members of the Council at least 3 workdays before closing date of the vote;
- the submitted votes should not be made public until the voting is closed;
- the draft decision shall be adopted if at least two-thirds of the Council members took part in the voting and more than half of them voted in favour.

Electronic voting is possible in the following DIT and HBDT matters:

- *announcement of doctoral topics*
- *appointment of the Doctoral Admission Committee*
- *approval of the report of the Doctoral Admission Committee*
- *approval of the list and waiting list of state-funded scholarships*
- *approval of work plans and reports*
- *approval of the syllabus of the complex examination subjects*
- *assigning the complex examination subjects to students, appointing the examination committees*
- *program and organization of the PhD professional day*
  
- changes in the composition of the committee
- closing the degree award procedure upon exceeding the 2 year deadline

The votes shall be tabulated by the administrator of Dean's Office and shall be authenticated by the chairman of the college and a member appointed by the Chairman. The members of the college shall be informed of the results of the vote within 24 hours of the close of the vote.

The addition on electronic voting was approved by the EHBDDT session on November 29, 2018.



## Publication and language requirements for the PhD degree Habilitation Committee and Doctoral Council of Physics

### Minimum publication requirements

*Formal compliance with the requirements does not guarantee in itself either the initiation of the procedure or its successful completion. Upon making their decision, both the Physical Sciences HBDT and the official opponents substantially examine the publication level of the new scientific results, and also the candidate's contribution to the published results.*

### The PhD dissertation shall fulfil conditions A or B to be forwarded to the opponents as follows.

#### **A.**

Among the scientific publications related to the thesis points (published or accepted for publication) at least 3 shall be WS articles, and the candidate shall be first author in minimum 2 of the latter ones. A filed international patent can substitute 1 WS publication (maximum 1 WS publication).

Of the 3 WS articles 2 shall be category K1 “featured publication”, and the candidate shall be first author in minimum one of the latter ones.

#### **B.**

Completion of 3 “equivalent publications” through category K1, K2, and K3 featured publications, where the above featured publications shall count with 1, 2, and 3 weights, respectively in the calculation of equivalent publications. The candidate shall be the first author in at least one featured category publication.

### Definitions:

A **category K1** featured publication is a journal article published (or accepted for publication) in a journal with an impact factor of at least 1,000 in any of the 5 years prior to the submission, or belongs to the below journals of recognized forum of the narrow field:

Applied Radiation & Isotopes	Modern Physics Letters B.
Fractals	Optical Engineering
Granular Matter	Nuclear Science & Engineering
Int. J. Bifurcation & Chaos	Nuclear Technology
Int. J. Refractory Metals & Hard Materials	Progress in Nuclear Energy
J. Radioanalytical and Nuclear Chemistry	Radiation Protection Dosimetry
J. Computational and Theoretical Transport	Reports of Practical Oncology and
Kerntechnik	Radiotherapy
	Quantitative Finance

A **category K2** featured publication is a journal article published (or accepted for publication) in a journal with an impact factor of at least **3,000** in any of the 5 years prior to the submission, or belongs to the below journals of recognized forum of the narrow field: APS Physical Review journals, Europhysics Letters, Journal of Applied Physics, Annals of Nuclear Energy, Nuclear Instruments and Methods, Nuclear Engineering and Design, Fusion Engineering and Design, Radiology and Oncology, Medical Dosimetry

A **category K3** featured publication is a journal article published (accepted for publication) in a journal with an impact factor of at least **6,000** in any of the 5 years prior to the submission.

### **Exemption from the first authorship requirement for multi-author publications**

If the work submitted towards doctoral degree is based exclusively on articles in large collaborations (at least 20 authors) for which the usual first authorship designation is excluded by the rules of operation of the collaboration, HBDT can grant an exemption from this requirement simultaneously with sending out the dissertation to referees.

The request for exemption must be made in writing when the graduation procedure is initiated. The justification should include a description of the candidate's exact individual contribution, documented by the means available for the specific collaboration concerned.

### **Language requirements**

Section 17(3) of the BME DSZ establishes an intermediate level English language examination in the first place. To certify language competence, a complex (oral and written) state accredited language examination at level B2 or a certificate equivalent thereto shall be required.

The second foreign language shall be any language in which the branch of science is practiced. To certify language competence, a complex (oral and written) state accredited language examination at level B1 (elementary), or a certificate equivalent thereto shall be required. With an HBDT decision, the authenticated proof – provided by a higher education institute or a research institute – as proof of second language competence (e.g. taking examinations or giving lectures in the given language) shall also be accepted.

The requirements for degree obtainment shall be reviewed annually by the Habilitation Committee and Doctoral Council of Physics (HBDT), and shall be amended as needed. The above requirement were adopted by the HBDT on November 20, 2020, and took effect with the approval by the Habilitation Committee and Doctoral Council of the University on November 27, 2020.