

**Obuda University**

**Doctoral School of  
Applied Informatics  
and  
Applied Mathematics**

**Operational Regulations**

Amended pursuant to a resolution of the University Doctoral and Habilitation Council  
27 March 2026

**Name of the Doctoral School:**

Doctoral School of Applied Informatics and Applied Mathematics

**Seat:**

Obuda University  
1034 Budapest, Bécsi út 96/b.

**Head of the Doctoral School:**

Gyula Simon, Professor, DSc

**Core Members:**

Árpád Baricz, Professor, Dr. habil., PhD  
Tamás Ferenci, Professor, Dr. habil., PhD  
Péter Galambos, Professor, Dr. habil., PhD  
Tamás Haidegger, Professor, Dr. habil., PhD  
László Horváth, Professor Emeritus, Dr. habil., CSc  
Levente Kovács, Professor, Dr. habil., DSc  
Miklós Kozlovszky, Professor, Dr. habil., PhD  
Sándor Kristály, Professor, Dr. habil., DSc  
Péter Tibor Nagy, Professor Emeritus, Dr. habil., DSc  
Gyula Simon, Professor, Dr. habil., DSc  
Sándor Szénási, Professor, Dr. habil., PhD  
József Tar, Professor, Dr. habil., DSc

The Operational Regulations of the Doctoral School of Applied Informatics and Applied Mathematics (hereinafter: Regulations; Hungarian abbreviation: AIAMDI MSZ) have been prepared in accordance with Act CCIV of 2011 on National Higher Education; Government Decree No. 387/2012 (XII. 19.) on Doctoral Schools, the Order of Doctoral Procedures and Habilitation; the requirements of the Hungarian Accreditation Committee concerning the establishment and operation of doctoral schools; and the Doctoral and Habilitation Regulations of Obuda University (Budapest, 2025; version in force from 1 January 2026), with due regard to the development objectives formulated in the accreditation report of the Doctoral School.

## **I. General Provisions**

The Operational Regulations of the Doctoral School of Applied Informatics and Applied Mathematics of Obuda University (hereinafter: the Regulations, in Hungarian: MSZ) were drawn up as a supplement to the Doctoral and Habilitation Regulations of the University (hereinafter: EDHSZ), adopted by the University Senate, for the purpose of regulating the issues and procedures assigned therein to the competence of doctoral schools, taking into account the specific situation and disciplinary characteristics of the fields of informatics and mathematics.

### **Subject Matter and Scope of the Regulations**

#### **1. §**

- (1) The Doctoral School of Applied Informatics and Applied Mathematics operates under the direct supervision of the Rector. Administrative tasks related to the students of the Doctoral School are performed by the Doctoral School and the University Doctoral and Habilitation Office.
- (2) In the work of the Doctoral School (hereinafter: DI), in addition to the core members, lecturers and supervisors from other Hungarian or foreign universities and research institutions may also participate as lecturers and supervisors.
- (3) The organisational structure of the Doctoral School and the fundamental framework of its operation are governed by the Doctoral and Habilitation Regulations of the University.
- (4) The duties of the Council of the Doctoral School (hereinafter: DIT) are defined by the EDHSZ
- (5) The rules governing the training conducted within the Doctoral School are determined by the EDHSZ and by the Rules and Regulations for Studies and Examinations of Obuda University.

In matters not regulated by the present Regulations, the relevant provisions of the Student Requirements System of Obuda University, the University Quality Assurance Regulations, and the Quality Assurance Plan uniformly applicable to doctoral schools shall apply.

### **Doctoral Education and Degree Acquisition**

#### **2. §**

- (1) The consecutive cycles of higher education providing a higher level of qualification are bachelor's programs, master's programs, and doctoral programs [Section 3 (1) of the Act on National Higher Education].
- (2) Doctoral education forms part of the institutional training program and prepares students for obtaining the doctoral degree within the training cycle following the acquisition of the master's degree [Section 16 of the Act on National Higher Education]. Taking part in a doctoral program is a necessary, but in itself not sufficient, condition for the award of the doctoral degree. The procedure for obtaining the doctoral degree includes the

complex examination; the demonstration of aptitude for independent research and the presentation of new scientific results; the fulfilment of the prescribed foreign language requirements; and the public presentation and defence of a dissertation containing the solution of an independent scientific problem.

- (3) The organized framework of doctoral education is the Doctoral School (DI), which carries out its activities on the basis of a decision of the University Senate adopted subject to the approval of the Hungarian Accreditation Committee (MAB).
- (4) The detailed rules for initiating the doctoral degree acquisition procedure are governed by the provisions of the Doctoral and Habilitation Regulations (EDHSZ) in force at any given time.

## **II. Structure of the Doctoral School**

### **3. §**

- (1) The operation of the Doctoral School is directed by the Head of the Doctoral School.
- (2) The body assisting the Head of the Doctoral School in their work is the Council of the Doctoral School (hereinafter: DIT), which is elected by the core members of the Doctoral School (the Council of Core Members; hereinafter: TT). The lecturers of the Doctoral School are those lecturers and researchers holding a scientific degree whom, upon the proposal of the Head of the Doctoral School, the DIT considers suitable for performing teaching activities within the framework of the Doctoral School.
- (3) The work of the Doctoral School is supported by an International Advisory Board. The International Advisory Board gives its opinion on the curriculum and research program of the Doctoral School and may make proposals for the inclusion of courses and research topics. It summarises the development trends of the scientific disciplines related to the research areas of the Doctoral School and makes proposals for the expansion of the Doctoral School's international cooperation. The International Advisory Board may annually propose the award of one honorary doctoral title.
- (4) The Head of the Doctoral School is assisted in their work by a Director of Operations. The Director of Operations is appointed by the Rector. The scope of duties of the Director of Operations includes the performance of tasks related to the financial management of the Doctoral School; monitoring the credit accumulation process of PhD students during the semester reports, with the involvement of the student and with the student's agreement following the presentation of the report; as well as the performance of tasks which, according to the Quality Assurance Plan in force, fall within the scope of responsibilities of the secretary in doctoral schools that employ a secretary. These tasks include, in particular: organizing the operational quality assurance activities of the Doctoral School; ensuring, together with the Head of the Doctoral School, the application at Doctoral School level of the comprehensive set of criteria of the institutional quality assurance procedures; updating the documents of the Doctoral School, together with the Head of the Doctoral School, in order to ensure compliance with any necessary changes in legislation or governmental decisions; coordinating the collection of opinions and comments from external partners, by means of questionnaires,

in connection with various examinations and other professional events (complex examinations, workplace / workshop debates, public defences, professional forums, workshops, doctoral conferences, etc.); preparing the annual, anonymous, questionnaire-based surveys measuring student, lecturer and supervisor satisfaction, and processing their results jointly with the Head of the Doctoral School; maintaining records of doctoral graduates; managing the communication platforms of the Doctoral School; and organizing the operational quality assurance activities of the Doctoral School.

- (5) Within the Doctoral School, programs operate along two closely related yet distinct scientific disciplines, with the aim of enabling Program Directors / Program Leaders to monitor students' work and to support the progress of doctoral students in a discipline-specific manner. The programs include further sub-programs, and both programs and sub-programs have designated directors / leaders. The scope of duties of the Program Directors / Program Leaders includes the evaluation of research topics submitted to the Doctoral School; following this, the Head of the Doctoral School submits a proposal to the DIT regarding the acceptance of the research topic, and the DIT adopts its decision subject to the approval of the Doctoral and Habilitation Council for Engineering and Natural Sciences (MTTDHT). Furthermore, Program Directors and Sub-program Directors monitor students' progress and participate in end-of-semester research reports as members of the assessment committee. If they conclude that a student's progress is not proportionate to the time elapsed, they initiate a progress consultation with the student and/or the supervisor, the purpose of which is to identify and understand the problems and to outline possible options in order to ensure that doctoral studies can continue at an appropriate pace. The duties of the Program Directors further include the supervision of the development of learning outcomes, in particular transferable ("soft skill") competences, as well as the elaboration of comprehensive measures aimed at reducing drop-out rates, with special attention paid to students who have obtained the *absolutorium*.

## The Head of the Doctoral School

### 4. §

- (1) The Head of the Doctoral School is elected by the University Doctoral and Habilitation Council (EDHT) upon the proposal of the majority of the core members and appointed by the Rector.
- (2) The Head of the Doctoral School
  - a) is responsible for the scientific standard of the Doctoral School, its educational activities, and the operation of its quality assurance system;
  - b) performs the duties assigned to them by the Doctoral and Habilitation Regulations (EDHSZ), Rules and Regulations for Studies and Examinations of Obuda University (OE TVSZ), and the Operational Regulations of the Doctoral School of Applied Informatics and Applied Mathematics (AIAMDI MSZ);
  - c) performs the duties of Chair of the Council of the Doctoral School (DIT) [Section 8 (1) of the EDHSZ], including in particular:
  - d) submitting proposals to the DIT regarding the utilization of the human and material resources made available to the Doctoral School;
  - e) submitting proposals regarding the subjects of the complex examination and the composition of the examination committee;
  - f) submitting proposals regarding the composition of the official reviewers and the evaluation committee;
  - g) is responsible for the financial management of the Doctoral School
  - h) submits the annual quality objectives, indicators, and development measures of the Doctoral School;
  - i) elaborates, with the involvement of the DIT, a development strategy for a period of three to five years containing quality objectives and indicators, and evaluates its implementation on an annual basis.

The DIT may elect a Deputy Head of the Doctoral School from among the members of the Doctoral School, who substitutes the Head of the Doctoral School within the scope defined by the Head and participates in the performance of organizational and quality assurance tasks.

## **Council of the Doctoral School**

### **5. §**

- (1) The Council of the Doctoral School (DIT) is a body assisting the work of the Head of the Doctoral School. The members and the Vice-Chair of the DIT are elected by the core members of the Doctoral School (TT). In accordance with the conditions laid down in the Doctoral and Habilitation Regulations (EDHSZ), the core members of the Doctoral School may elect additional members holding a scientific degree to the Council.
- (2) The personal composition of the DIT shall ensure adequate professional coverage of the disciplines cultivated within the Doctoral School.
- (3) The duties of the DIT are determined by the EDHSZ.  
The DIT annually evaluates the implementation of the Doctoral School's program, the standard of the training, as well as the work of lecturers, supervisors, and doctoral students; prepares a report on the evaluation, including an action plan; and submits this report to the University Doctoral and Habilitation Council (EDHT).
- (4) The DIT meets as required, but at least once per semester, and adopts decisions on matters falling within its competence.
- (5) Voting rights are vested in the Chair and the members of the DIT, with the exception of the election of members of the DIT, in which only the core members of the Doctoral School are entitled to vote. The student representative of the DIT participates with consultative rights.
- (6) The DIT has a quorum if at least half of its members entitled to vote participate in the voting.
- (7) The DIT generally adopts its decisions by simple majority through an open ballot. In the event of an equality of votes, the vote of the Chair shall be decisive. In justified cases, any member may request or the Chair may initiate a secret ballot.
- (8) In matters related to personnel decisions, the DIT adopts its decisions by secret ballot. The ballot paper shall include the name of each candidate; voters shall mark all candidates whom they consider acceptable. The candidate or candidates receiving the highest number of votes shall be proposed in accordance with the subject of the decision. In the event that more than one candidate receives an equal number of votes, the decision shall be taken by the Chair.
- (9) In the event of personnel matters, a person shall be excluded from decision-making if they have any of the following relationships with the individual concerned:
  - a) a direct professional relationship (superior-subordinate relationship);
  - b) a close relative relationship;
  - c) a scientific co-authorship within the past five years; or
  - d) there is any other reason that prevents them from providing an objective assessment of the matter.

- (10) In cases where an opinion is formed on the award of a degree as part of the doctoral degree acquisition procedure, the DIT applies a yes–no vote. Upon the proposal of the Chair of the DIT, in urgent or justified cases, the DIT may adopt a decision by electronic means (e-mail).
- (11) Materials required for agenda items involving decision-making at meetings of the DIT shall be made accessible to the members at least three working days prior to the meeting. Publication may take place electronically. The date of the meeting, together with the proposed agenda, shall be communicated to the members at least five working days prior to the meeting.
- (12) Minutes shall be taken of the meetings of the DIT. The minutes shall be made accessible to the lecturers and doctoral students of the Doctoral School no later than ten working days following the meeting and shall be deposited in the archives of the Doctoral School.

### **Lecturers and Supervisors of the Doctoral School**

#### **6. §**

- (1) Lecturers of the Doctoral School are those lecturers and researchers holding a scientific degree whom, upon the proposal of the Head of the Doctoral School, the Council of the Doctoral School (DIT) considers suitable for performing teaching activities within the framework of the Doctoral School. The core members and lecturers of the Doctoral School may also undertake teaching assignments in other doctoral schools.

The supervisor of a doctoral research topic is a lecturer or researcher holding a scientific degree and carrying out active research activity whose topic announcement has been approved by the DIT upon their application or invitation. A supervisor may not supervise more than six doctoral students who have not yet obtained the absolutorium at the same time; all doctoral students supervised in any doctoral school shall be included in this limit, and in the case of co-supervision, each supervised student shall be taken into account with a weighting factor of 0.5.

A doctoral student may have a maximum of two supervisors recorded in the University registry, who responsibly guide, support, and evaluate the doctoral student's studies and research work, as well as their preparation for doctoral degree acquisition. In the case of an external supervisor, the DIT designates an internal supervisor who, on behalf of the University, assists the work of the external supervisor and monitors the student's professional progress. Where two supervisors are appointed, the DIT designates one of them as the responsible supervisor.

The suitability of the lecturers, research topic announcers, and supervisors of the Doctoral School is assessed by the DIT in particular on the basis of their scientific degree, ongoing research activity, publication performance, the up-to-dateness of their ODT/MTMT records, supervisory experience, and the feasibility of the topics undertaken.

The DIT reviews at least annually the professional performance of lecturers, research topic announcers, and supervisors, as well as the development of supervisory workloads; where justified, it decides on making topic announcements or supervision subject to conditions, restricting them, or terminating them.

## Communication of the Doctoral School

### 7. §

- (1) Through its website, the Doctoral School (DI) provides continuous and regularly updated information on the operation of the School in the following areas:
  - the disciplinary classification of the School and the designation of the doctoral degree that can be obtained;
  - the names and professional curricula vitae of the core members and lecturers;
  - the list of members and offices of the Council of the Doctoral School (DIT), as well as the name of the doctoral student representative;
  - national and international academic relations;
  - publicly available information on cooperation agreements and external professional partners;
  - the current and previous, archived versions of the Operational Regulations (in chronological order);
  - the Operational Plan;
  - the Quality Assurance Plan;
  - the office hours and consultation arrangements of the officers of the Doctoral School;
  - the most important resolutions of the DIT and of the University Doctoral and Habilitation Council (EDHT), in chronological order, in both Hungarian and English.
  
- (2) Through its website, the Doctoral School provides continuous and regularly updated information on the doctoral training, including:
  - doctoral research topics approved by the EDHT and their supervisors;
  - admission requirements;
  - the admission call published in Hungarian and English, which shall obligatorily include the application period, deadlines, scoring rules, the maximum number of students planned to be admitted, and the exact amount of the tuition fee;
  - the requirements for doctoral degree acquisition;
  - the Study and Examination Regulations;
  - the courses taught;
  - the subject areas and topics of the complex examination;
  - the announced doctoral research topics.

For the offered subjects, course descriptions in both Hungarian and English shall be made available, including the type and objectives of the course, its credit value, the form of assessment, and the recommended literature.
  
- (3) Through its website, the Doctoral School provides continuous and regularly updated information on the performance of the Doctoral School by making available:
  - invitations to public defences, which shall be published in a clearly visible and highlighted manner on the main page of the website;
  - the electronic versions of PhD dissertations and thesis booklets;
  - the list of PhD degree holders;
  - statistical data on the employment of graduates (alumni statistics);
  - the annual quality objectives and indicators, as well as the main findings of the annual evaluations.

- (4) The Doctoral School updates its website at least once per month. The Doctoral School ensures that up-to-date information on the Doctoral School is continuously available on the database pages of [www.doktori.hu](http://www.doktori.hu).

The Doctoral School ensures that the Hungarian- and English-language versions of the website correspond substantially to each other in terms of structure and content. In addition to the documents currently in force, previous versions of regulatory and quality assurance documents shall be available on the website in archived form and in chronological order; furthermore, invitations to public thesis defences shall also be published on a dedicated, separate interface.

### III. Doctoral Education

#### Application and Admission Procedure

##### 8. §

- (1) The general conditions for application are laid down in the Doctoral and Habilitation Regulations (EDHSZ) [Section 15 of the EDHSZ].
- (2) Applications submitted for admission shall include the following documents:
  - a) an application form completed electronically (Annex D6);
  - b) proof of payment of the application fee
  - c) a copy of the MSc/MA/university degree (with the presentation of the original);
  - d) copies of documents certifying language proficiency (with the presentation of the originals)
  - e) a professional curriculum vitae including a list of publications;
  - f) statement of acceptance signed by the chosen institute or research unit and the prospective supervisor (in the case of applications for a state-funded form of training)
  - g) a preliminary research proposal (1–2 pages) approved and signed by the prospective supervisor(s); in the case of applying for individual preparation, the applicant's publication list according to the MTMT (Hungarian Scientific Bibliography) database
  - h) for applicants who are employed: a letter of support from the employer;
  - i) other documents (e.g. letters of recommendation);
  - j) a declaration indicating whether the applicant requests admission as a self-funded student if they are not awarded a scholarship.
- (3) In the case of organised fee-paying (part-time/correspondence) training, cooperative doctoral programs, research excellence doctoral programs, as well as students admitted under the Stipendium Hungaricum scholarship scheme, the application shall, in addition to the documents listed in points (a)–(j) of paragraph (2), also include the following documents:
  - a) Detailed letter of motivation: Applicants are required to submit a detailed essay explaining why they have chosen the program, what their research plans are, and how these fit into their career plans.
  - b) Research plan with feasibility analysis and milestones: Submission of a research plan is mandatory for all applicants; however, in the case of part-time (correspondence) students and students applying under the Stipendium Hungaricum scholarship scheme, the research plan shall be supplemented with a feasibility analysis and defined milestones.
  - c) Letters of recommendation: The applicant shall obtain a letter of recommendation from a recognised professional affiliated with the workplace or institution related to their current or previous professional activity, outlining the applicant's suitability. In the case of a current employment relationship (where applicable), a statement shall also be provided confirming that the workload required by the doctoral programme is compatible with the time demands of the applicant's employment.
  - d) Employment of students participating in full-time program is permitted within the framework of the Act on National Higher Education and the EDHSZ, provided that it does not hinder the full performance of the academic and research obligations required in doctoral education.

- (4) Applicants shall be evaluated partly on the basis of the application submitted in accordance with the Doctoral and Habilitation Regulations (EDHSZ) and partly on the basis of an admission interview. During the interview, an Admissions Committee appointed by the Council of the Doctoral School (DIT), consisting of at least three members, shall assess the applicant's professional preparedness, research plans, and language proficiency.
- (5) Admission interviews shall be held at the time and place determined by the DIT. Applicants shall be notified in writing by the Doctoral School of the date and time of the admission interview.
- (6) Admission ranking shall be based on four criteria, as follows:
  - a) classification of the degree;
  - b) language proficiency;
  - c) initial, preliminary scientific activity;
  - d) research plan and communication skills.The detailed rules of evaluation are set out in Annex 4.
- (7) The Admission Committee shall evaluate applicants on a scale of up to 100 points. Admission to doctoral education requires a minimum score of 60. For applicants to organized training, a minimum of 5 points must be achieved for each of the four criteria. The Council of the Doctoral School (DIT) shall rank the applicants who meet these conditions. Based on the Admissions Committee's opinion, the DIT shall submit a proposal regarding the admission decision to the Chair of the University Doctoral and Habilitation Council (EDHT).

In the case of applicants for individual preparation, admission shall be conditional until the successful completion of the complex examination; as part of the application, at least one scientific publication related to the doctoral research topic that has been published or accepted for publication shall also be evidenced.

- (8) The admission decision may be:
  - a) admission to a state-funded, full-time, organized training program;
  - b) admission to a self-financed, full-time, organized training program;
  - c) admission to a self-financed, part-time (correspondence), organized training program;
  - d) admission to a cooperative doctoral program supported by state funding and additional scholarship;
  - e) admission to a self-financed research excellence doctoral program;
  - f) admission to individual preparation;
  - g) rejection of the application.
- (9) The admission decision shall specify the form of training, the doctoral program, the supervisor(s), and the score achieved during the admission procedure.
- (10) Decisions on transfer between the different forms of training shall be taken by the competent university body, based on the opinion of the Council of the Doctoral School (DIT).

## Curriculum and Individual Work Plan

### 9. §

- (1) The Doctoral School operates on the basis of a curriculum and operational plan approved by the University Doctoral and Habilitation Council (EDHT) upon the proposal of the Council of the Doctoral School (DIT).
- (2) The curriculum shall include:
  - a) the objectives of the program;
  - b) the credits to be obtained and their distribution among study (course), research, publication, teaching and other activities;
  - c) the list of courses and their credit values;
  - d) the list of lecturers;
  - e) the list of subjects and thematic areas of the complex examination.
- (3) Within the framework of the doctoral curriculum, the doctoral student's individual work plan defines the tasks to be completed by the doctoral student during their studies. The students' individual work plans shall be prepared in the first semester of organized training with the assistance of the supervisor(s). Upon the proposal of the supervisor, the individual work plan shall be approved by the Council of the Doctoral School (DIT). The individual work plan may only be approved if it is in compliance with the Doctoral Credit Regulations [Annex D2) of the EDHSZ].
- (4) The individual work plan shall include the courses which the student intends to take in order to fulfil their academic obligations. Any course offered by the Doctoral School may be taken; moreover – with the support of the supervisor – courses taught within the doctoral programs of other doctoral schools operating in related fields may also be taken. Subject to the approval of the Council of the Doctoral School (DIT), the individual work plan may also include courses taught within foreign doctoral programs.
- (5) For each course, the individual work plan shall include:
  - a) the title of the course;
  - b) the name of the lecturer responsible for the course;
  - c) the place of announcement of the course (institution, doctoral school, program);
  - d) the credit value of the course;
  - e) the scheduling of the course, i.e. the semester in which the course is to be taken.
- (6) The individual work plan shall include the research plan submitted for admission, supplemented in accordance with Annex 3.

## Duties of Participants in Organized Training Program

### 10. §

- (1) On the basis of the evaluation and the minutes of the Admissions Committee, the Council of the Doctoral School (DIT), taking additional criteria into account, submits a proposal for admission to the Chair of the University Doctoral and Habilitation Council (EDHT). The admission decision is taken by the Chair of the EDHT, who issues a formal decision thereon. [Section 15 (9) of the EDHSZ]
- (2) The doctoral student participates in academic training at the University and conducts individual research. The doctoral student may also undertake teaching duties; however, such activities shall not form part of the mandatory study obligations. On the basis of a decision of the Council of the Doctoral School (DIT), credits may be awarded for teaching [Annex D2) of the EDHSZ].
- (3) Doctoral students participating in organized training shall, in their first semester, enrol at the University Doctoral and Habilitation Office (EDHI) in accordance with the official announcement. The following documents are required for enrolment:
  - the degree certificate;
  - one passport-size photograph;
  - an official personal identification document;
  - the notification of admission;
  - a completed enrolment form.

After the expiry of the enrolment/registration deadline, an additional procedural fee shall be paid. In subsequent semesters, the doctoral student shall notify the Doctoral School whether they intend to activate the given semester or request a passive semester. Upon first enrolment, the EDHI shall open the doctoral student's electronic record book

- (4) The unit of measurement of study requirements is the study point (credit). In doctoral education, a credit is the unit of measure for the doctoral student's study, teaching, and research work aimed at fulfilling the student's academic obligations. During the entire period of training, doctoral students are required to complete a total of 240 credits in accordance with the conditions laid down in Annex D2) of the Doctoral and Habilitation Regulations (EDHSZ). If a doctoral student – through their own fault – fails to achieve by the end of a given semester the prescribed cumulative number of credits for that semester [Annex D2) of the EDHSZ], the Council of the Doctoral School (DIT) shall propose the termination of the student status on the basis of Annex D4/A) of the EDHSZ. The detailed credit regulations of the Doctoral School are set out in Annex 2 to the present Regulations.
- (5) Study (course) credits may be obtained by the doctoral student through studying and by fulfilling the assessment requirements of examinations. During the eight semesters of doctoral education, the mandatory number of study (course) credits to be completed is a minimum of 34 and a maximum of 60 [Annex D2) of the EDHSZ]. Completion of

credits shall be certified by the lecturer of the course listed in the student's academic record, on the basis of the examination, assignment, report, or other assessment requirements prescribed for the course taken. Credits may only be assigned to courses that are assessed with a grade on a five-point or three-point grading scale. No credits may be obtained through language learning in doctoral education.

- (6) Credits may be awarded for teaching activities performed by the doctoral student in accordance with Annex 2 to the present Regulations.
- (7) The doctoral student shall be awarded credits for publication activity and other academic activities. Annex 1 to the present Regulations contains the publication credit table. The Council of the Doctoral School (DIT) shall review the credit table at least once every five years. The doctoral student's supervisor may propose to the DIT the supplementation or amendment of the credit table.
- (8) Prior to the conclusion of their doctoral studies, the doctoral student shall complete the prescribed summary of studies. This summary shall include a list of all completed courses and the credits earned. The absolutorium shall be issued by the Chair of the Doctoral School Council (DIT), upon the Council's positive evaluation.
- (9) The DIT shall evaluate doctoral students' research activities every semester, incorporating the feedback of the relevant institute directors and the supervisor(s). For students in organized training, the end-of-semester research report shall comprise both a written component and an oral presentation. The written component is mandatory; no exemptions shall be granted. The report must be reviewed and countersigned by the supervisor.
- (10) The end-of-semester research reports of doctoral students participating in organized training shall take the form of a public seminar or conference, in which the students of the Doctoral School (DI), their supervisors, and a representative of the Council of the DIT shall participate.

For students enrolled in part-time (correspondence) training, cooperative doctoral programs, or the Stipendium Hungaricum scholarship scheme, a documented consultation and progress monitoring framework must be established in agreement with the supervisor(s).

### **Rules on Individual Preparation**

#### **11. §**

- (1) The purpose of the individual preparation track is to enable professionals with extensive theoretical knowledge and practical expertise to prepare for and obtain a doctoral degree without completing formal course requirements.
- (2) The general conditions for individual preparation are governed by the prevailing provisions of the Doctoral and Habilitation Regulations (EDHSZ).
- (3) The Doctoral School (DI) sets the following academic and professional entry requirements for candidates for individual preparation:

- a) out of the total of 75 required publication credits, the applicant must already possess 50 credits;
- b) professional experience of at least two years, corresponding to the duration of the training and research phase, must be verified in the applicant's field of research;
- c) at least one published or accepted scientific publication related to the doctoral research topic must be documented.

Prior to admission, the candidate for individual preparation shall select a supervisor to guide the preparation of the dissertation, who is then formally invited by the Council of the Doctoral School (DIT).

Upon successful completion of the complex examination, the student status of the individual preparation candidate is established, and at the same time the Doctoral School (DI) recognises the completion of 120 credits corresponding to the training and research phase. In addition to the credits acquired previously, the individual preparation candidate shall be required to obtain further credits up to a total of 240 credits; such credits may be derived from publications – including the credit value of the at least one published or accepted scientific publication required for admission – active participation in research projects, end-of-semester research reports, and teaching.

Any further recognition of previously acquired knowledge, competences, and achievements shall be decided by the Council of the Doctoral School (DIT) upon individual request.

- (4) The individual preparation candidate must submit their doctoral dissertation for public defence within five academic years of the commencement of their student status.
- (5) Unless otherwise specified by the EDHSZ or these Operational Regulations (MSZ) for doctoral students in the individual preparation track, the provisions governing students in organized programs shall apply.

### **Change of Supervisor**

#### **12. §**

In justified cases, the Council of the Doctoral School (DIT) may change the doctoral research topic or the supervisor / co-supervisor. Such changes may be initiated by the DIT itself or upon the request of the doctoral student or the supervisor(s). The DIT shall provide a justification for its decision, ensuring that all concerned parties are involved and informed. Prior to reaching a decision, the DIT shall consult the former and the new supervisor(s)

- (1) Any change in the research topic or supervisor shall not extend the duration of the doctoral studies.

### **IV. Doctoral Degree Acquisition**

#### **13. §**

- (1) The prevailing provisions of the Doctoral and Habilitation Regulations (EDHSZ) shall apply to the process of doctoral degree acquisition.

- (2) The general requirements and detailed regulations for doctoral degree acquisition are set out in the prevailing provisions of the EDHSZ.
- (3) The provisions of the EDHSZ, as well as the Operational Plan of the Doctoral School (DI), shall apply to the complex examination.

### **The Doctoral Dissertation / Thesis**

#### **14. §**

- (1) The general provisions applicable to the doctoral dissertation are laid down in the currently effective provisions of the Doctoral and Habilitation Regulations (EDHSZ).
- (2) Subject to the conditions set out in Section 20(e) of the EDHSZ, the dissertation may also be submitted as a dissertation by publication. Such dissertations may only be accepted in compliance with the prevailing provisions of the EDHSZ.
- (3) The dissertation shall state the author's name, the supervisor(s)' name(s), the name of the doctoral school, and the place and year of submission. The dissertation shall be accompanied by a table of contents, abstracts in Hungarian and in a foreign language (not exceeding two pages), and a bibliography. The latter must also include the candidate's scholarly publications. The dissertation may include appendices (e.g., collections of photographs or documents, program descriptions, etc.).
- (4) The dissertation shall be accompanied by the documents prepared pursuant to Annexes D9)–D13) of the EDHSZ, especially the thesis booklet and the required declarations.
- (5) The provisions of the EDHSZ in force at any given time shall apply to the number of copies, the electronic format, and the public access regarding the submission of the dissertation and the thesis booklet.
- (6) Where results are affected by patenting or other intellectual property rights protection procedures, the publication of the dissertation and the thesis booklet may be deferred pursuant to the EDHSZ and the Act on National Higher Education (Nftv.) at the latest until the legally applicable date of disclosure.
- (7) At the beginning of the dissertation, a declaration shall be included stating that the findings presented therein are the author's own, and that the work of others has been used only with proper citation and referencing.

### **Workshop / Workplace Debate (Internal Defence)**

#### **15. §**

- (1) Before formal submission, the dissertation must undergo a workshop / workplace debate or internal defence at the relevant academic or organizational unit.
- (2) The workshop debate shall be organized by the head of the relevant organizational unit upon the initiative of the Head of the Doctoral School.

- (3) The dissertation intended for the workshop debate, along with all related documentation, shall be submitted to the Doctoral School (DI) at least three weeks before the scheduled date of the debate.
- (4) The following shall be invited to the workshop debate:
  - a) all lecturers, researchers, and doctoral students of the institute where the candidate conducted their research;
  - b) members of the Doctoral School Council (DIT) and the core members of the Doctoral School;
  - c) the supervisor(s).
- (5) Invitations to the workshop debate shall be issued at least two weeks in advance by the head of the organizational unit responsible for the debate, and shall be published on the Doctoral School website.
- (6) Two written preliminary reviewer reports shall be prepared regarding the dissertation for the debate. The author shall consider the comments raised at their own discretion. Minutes of the workplace debate – incorporating the preliminary reviewer reports and the author's response – shall be drawn up, along with an attendance sheet.

### **Public Defence**

#### **16. §**

- (1) The provisions of the Doctoral and Habilitation Regulations (EDHSZ) in force at any given time shall apply to the public defence, to the operation of the evaluation committee, and to the procedure of the public defence.
- (2) The public defence shall be organized by the Doctoral School.
- (3) Invitations to the public defence shall be sent by the Doctoral School at least three weeks prior to the date of the defence.
- (4) The invitation to the public defence shall be published on the websites of both the National Doctoral Council ([www.doktori.hu](http://www.doktori.hu)) and the Doctoral School (DI). The invitation must specify where the dissertation is available for public inspection.
- (5) The following shall be invited to the public defence:
  - a) members of the Council of the Doctoral School (DIT);
  - b) all qualified faculty members of the doctoral student's institute;
  - c) the relevant organizational units of partner faculties;
  - d) the supervisors.
- (6) If the dissertation involves national security matters or is subject to restricted access (e.g., due to intellectual property protection or patenting), confidentiality shall be strictly maintained by all participants throughout the public defence procedure. This requirement shall be documented through appropriate non-disclosure declarations.

## **Language Requirements**

### **17. §**

- (7) The provisions of the Doctoral and Habilitation Regulations (EDHSZ) in force at any given time shall apply to foreign language requirements; for doctoral degree acquisition, proof of at least intermediate (B2-level) proficiency in English is required.

## **V. Other Provisions**

### **Quality Assurance**

#### **18. §**

1. The Council of the Doctoral School (DIT) develops and operates the principles and methods of quality assurance for doctoral studies and the acquisition of degrees in informatics and mathematics, and publishes them on its website in the 'Quality Assurance Plan' and the associated annual Doctoral School-level quality objectives and indicators.
2. Internal instruments of quality assurance include, in particular: monitoring credit completion and publication progress; evaluating end-of-semester research reports; reviewing at least annually the professional performance of supervisors, research topic announcers, and lecturers, as well as the development of supervisory workloads; the organized collection of feedback from students, lecturers, and external partners; and summarizing the experiences gained from workshop / workplace debates, complex examinations, and public defences.

The DIT determines the Doctoral School-level quality objectives and performance indicators for each academic year and evaluates their achievement in writing annually. The evaluation shall include an action and development plan.

The annual evaluation shall be discussed and adopted by the DIT; the report, including the action plan, shall be submitted to the University Doctoral and Habilitation Council (EDHT).

3. The DIT continuously monitors the operation of the educational program. In the course of its work, it makes use of the opinions of doctoral students, doctoral candidates prior to doctoral degree acquisition, recent doctoral graduates, and, where necessary, external experts, as well as the available quantitative and qualitative indicators.
4. The Doctoral School shall publish on its website the core documents related to quality assurance, the annual quality objectives and indicators, along with the main findings of the annual evaluation reports.

### **Annexes to the Operational Regulations of the Doctoral School**

#### **19. §**

Annex 1 – Evaluation of Scientific Publication Performance

Annex 2 – Credit Regulations

Annex 3 – Structure of the Research Plan

Annex 4 – Calculation of Admission Scores

Annex 5 – Council of Core Members

Annex 6 – Council of the Doctoral School and Its Officers

Annex 7 – Admissions Committee

Annex 8 – International Advisory Board of the Doctoral School

Annex 9 – Quality Assurance Plan

## VI. Annexes

### Annex 1 – Evaluation of Scientific Publication Performance

1. For the purposes of the present Regulations, a publication shall mean a printed and/or electronic work (journal article, scientific monograph, book chapter, etc.) which, pursuant to Annex 3 of Resolution No. MAB 2013/6/III/1.3, meets the following criteria:
  - a) it presents the author's own research results (in the case of a book, such results are explicitly referenced);
  - b) it contains accurate and proper references to the relevant literature;
  - c) it is assigned an ISBN or ISSN number;
  - d) it has been published in, or as, a scholarly publication.
2. The following shall not be considered publications:
  - a) writings published in daily newspapers or general-interest weekly magazines (even if their subject matter is of a professional nature);
  - b) self-published works that have not undergone linguistic or professional peer-review;
  - c) university lecture notes, teaching materials, handouts, problem sets, compilations, edited volumes, textual editing, etc.;
  - d) short (one-page) writings, abstracts, and extended abstracts in conference proceedings;
  - e) (book) translations;
  - f) book reviews or critiques (except for extensive analytical reviews of works);
  - g) research reports prepared under a grant or on commission;
  - h) bachelor's or master's theses;
  - i) other manuscript-type essays or writings;
  - j) popular science writings (e.g., in *Élet és Tudomány*);
  - k) interviews not conducted for research purposes, whether as the interviewer or interviewee.
3. For the purposes of these Regulations, 'foreign language publications' shall be understood as those published in the working language.
4. Within the doctoral degree acquisition procedure, the Council of the Doctoral School (DIT) verifies compliance with the minimum requirements defined by the Doctoral and Habilitation Regulations (EDHSZ) at two stages:
  - upon the initiation of the procedure;
  - upon the submission of the dissertation.

(Where the initiation of the procedure and the submission of the dissertation coincide, the fulfilment of both requirements shall be examined jointly by the Committee.)

The minimum requirements and the scoring of publications serve, on the one hand, as a benchmark for candidates to assess their publication activity and to determine when it is

appropriate to initiate a doctoral degree acquisition procedure; on the other hand, they provide an indicative threshold for proposers, below which they generally may not recommend the initiation of a doctoral procedure. It should be noted, however, that in decisions concerning the award of the doctoral degree, the quality of the publications is just as important as their quantity.

Compliance with the minimum requirements shall be verified by the proposer (and, based on the proposal, by the DIT) using the submitted list of publications. If the minimum requirements are not met, the DIT shall reject the application.

### **Minimum Publication Requirements for Initiating the Doctoral Degree Acquisition Procedure**

The number of publications – either published or formally accepted for publication as verified by an editorial or publisher’s statement – must be at least five, including:

- at least two articles published in, or accepted for publication by, internationally recognized, peer-reviewed foreign-language journals in the relevant field. At least one of these two articles must be published in a journal indexed in the Web of Science, Scopus, IEEE Xplore, or Thomson Reuters databases;
- at most one of the two foreign-language peer-reviewed journal articles may be substituted by an English-language patent application, provided the conditions set out in Section 18(2) of the EDHSZ are met;
- at least three publications in a foreign language, with an average authorship share of at least 50% for the candidate; when calculating authorship shares, supervisors are excluded, and if the candidate is the first or last author, fractional counting shall not apply to that specific publication;
- at least three publications must be peer-reviewed journal articles or peer-reviewed conference papers.

The minimum total score to be achieved is 75.

### **Scoring of Publications**

When assessing publication activity, only data recorded in the Hungarian Scientific Bibliography (MTMT) shall be taken into account, as follows:

Scientific Article (The score shall be divided by the number of authors excluding supervisors; however, if the doctoral candidate is the first or last author, fractional counting shall not apply.)

Peer-reviewed journal article:

With Impact Factor (IF): 36 credits

Without IF, published internationally: 24 credits

Without IF, published domestically: 18 credits

Peer-reviewed Conference Paper (Minimum length: 4 pages; published in a volume with an ISBN or DOI, in printed or electronic form)

In a foreign language: 24 credits

In Hungarian: 6 credits

Scientific Book or Book Chapter (The score shall be divided by the number of authors excluding supervisors, except where the doctoral candidate is the first or last author, in which case fractional counting shall not apply. Credits are awarded for every 20 full pages.)

In a foreign language: 3.6 credits

In Hungarian: 1.8 credits

Publication credits shall be applied in a phased-in manner from 1 September 2016 onwards. Publication output achieved prior to this date shall be credited in accordance with the regulations adopted on 23 March 2016.

## PhD Minimum Requirements at the Time of Dissertation Submission

For each thesis point of the dissertation, the precise bibliographic reference(s) of the related scientific publication(s) must be provided. In the case of co-authored publications, co-authors – with the exception of the supervisor and foreign co-authors – shall provide a 'Co-author Acknowledgement and Waiver Declaration' in accordance with Annex D11 of the EDHSZ.

- Of the scientific publications linked to the thesis points, at least two shall be articles published in, or accepted for publication by, internationally recognized, peer-reviewed foreign-language journals in the relevant field. At least one of these two articles must be published in a journal indexed in the Web of Science, Scopus, IEEE Xplore, or Thomson Reuters databases.

At least half of the thesis points must be supported by articles published in journals or by full peer-reviewed conference papers.

## Annex 2 – Credit Regulations

- (1) In doctoral (PhD) programs, all academic requirements shall be defined in credits (study points). The general regulations governing credits obtainable in doctoral education are laid down in Annex D2 of the Doctoral and Habilitation Regulations (EDHSZ).
- (2) During the eight-semester doctoral program, a total of 240 credits shall be accumulated in order to obtain the absolutorium certificate. In the doctoral programme, credits may be obtained on the basis of the following activities:
  - studies, i.e. completion of courses;
  - research activity;
  - teaching activity.

The following table summarizes the number of credits that may be earned and the minimum number of credits required.

Type of credit	Number of credits awardable	Minimum number of credits to be earned	Maximum number of credits to be earned
Study (course) credits	7 per core subject 6 per soft skill subject	28 6	60
	End-of-semester research report	Semesters 1-4: 8, Semesters 5-8: 15	32 60
	Active participation in research projects	6-10 per project	
Research credits	Journal and conference publication	According to MSZ Annex 1 and EDHSZ Annex 2	75
Educational (teaching) credits	1 contact hour per week: 2		60
<b>Total</b>		<b>240</b>	

- (3) Students are awarded 7 credits for each core professional course and 6 credits for each soft skill course completed. A minimum of 28 credits must be earned from core professional courses (by completing at least 4 courses), and 6 credits from soft skill courses (by completing at least 1 course). Consequently, a total minimum of 34 study (course) credits is required.
- (4) For teaching activities, 2 credits may be earned for each contact hour per week held over a full semester. The doctoral student's teaching shall be recognized up to a maximum of 5 credits per semester during the first four semesters, and up to a maximum of 10 credits per semester from the fifth to the eighth semester of the program. [cf. EDHSZ, Appendix 2, Section 1.3]
- (5) Credits for research activities may be earned in three ways:
  - a) Publication credits shall be awarded for publication activities in accordance with Annex 1 of the Operational Regulations (MSZ);
  - b) For the end-of-semester research reports, 8 credits per semester may be awarded in semesters 1–4, and 15 credits per semester in semesters 5–8;
  - c) For active participation in research projects, 6–10 credits per project may be awarded based on the written recommendation of the project leader.

Regarding the recognition of activities carried out at other doctoral schools or institutions (credit transfer, partial training, visiting student studies, teaching, and research), the DI shall apply the rules and provisions set out in the Doctoral and Habilitation Regulations (EDHSZ), specifically Chapter 'D2) Doctoral Credit Regulations – I. University Forms and Extent of Student Performance'.

### **Annex 3 – Structure of the Research Plan**

The research plan must follow the structure outlined below:

#### **I. Research Background**

*Description of the research topic; a brief review of the literature; and the connection to previous findings in the field.*

*Length: 1-3 pages.*

#### **II. Objectives**

*Description of the research problem, its significance, and its relevance within the discipline.*

*Length: ½ -1 ½ pages.*

#### **III. Methodology**

*Description of the procedures, techniques, and methods to be employed.*

*Length: ½ -2 pages.*

#### **IV. Research Timeline**

*Presentation of research milestones, providing a semester-by-semester breakdown of planned progress.*

#### **V. Potential for Practical Application**

*Presentation of the practical applicability and potential utilization of the new scientific findings.*

#### **VI. Bibliography / List of References**

*A list of references cited in the text [Name, Year].*

#### **VII. Planned Study Trips and Conferences**

*Plans for participation in domestic and international conferences, summer schools, and other scientific events, including potential funding sources and grant applications.*

#### **VIII. Scientific Publications and Works**

*The applicant's existing publications related to the research plan, including preprints and manuscripts not yet accepted for publication.*

## Annex 4 – Calculation of Admission Scores

Applicants shall be interviewed by an Admissions Committee (Chair and members) appointed by the Council of the Doctoral School (DIT), either in person or online. Based on the submitted documents and the interview, the Committee shall assess the applicants' performance on a 100-point scale according to the following criteria:

**1. Degree classification:** classification of the MSc/MBA degree – maximum 30 points (excellent: 30 points; good: 20 points; average: 10 points).

**2. Language proficiency:** maximum 15 points (advanced level: 15 points; intermediate level: 11 points; elementary level: 7 points; on-site oral assessment: 0–7 points).

**3. Preliminary scientific activity:** maximum 30 points. Scoring is based on the publication credit system also applicable to doctoral students [Annex 1].

Additional points may be awarded for participation and rankings in the Scientific Students' Associations Conference (TDK):

TDK 1st Prize: up to 20 points

TDK 2nd Prize: up to 15 points

TDK 3rd Prize: up to 10 points

TDK Participation: up to 5 points

To earn points for preliminary scientific activity, the relevant publications and certificates of TDK rankings must be submitted by the end of the admission period. The maximum score for this category is 30 points.

Holders of the Pro Scientia Gold Medal shall be awarded the maximum score for the third evaluation criterion.

**4. Research plan and professional aptitude:** maximum 25 points

Based on the research plan submitted by the applicant and the admission interview, the Committee shall assess the applicant's concepts regarding their doctoral work and the feasibility of the research program, with particular regard to the following aspects:

- Is the applicant able to formulate the problems related to the selected research topic that they intend to solve and that have not yet been solved by other researchers?
- Is the applicant aware of the relevant literature sources through which preparation for the selected topic can be undertaken?
- Is the applicant able to clearly distinguish between research and development tasks related to the selected topic?

## **Annex 5 – Council of Core Members**

Árpád Baricz, Professor, Dr. habil., PhD  
Tamás Ferenci, Professor, Dr. habil., PhD  
Péter Galambos, Professor, Dr. habil., PhD  
Tamás Haidegger, Professor, Dr. habil., PhD  
László Horváth, Professor Emeritus, Dr. habil., CSc  
Levente Kovács, Professor, Dr. habil., DSc  
Miklós Kozlovszky, Professor, Dr. habil., PhD  
Sándor Kristály, Professor, Dr. habil., DSc  
Péter Tibor Nagy, Professor Emeritus, Dr. habil., DSc  
Gyula Simon, Professor, Dr. habil., DSc  
Sándor Szénási, Professor, Dr. habil., PhD  
József Tar, Professor, Dr. habil., DSc

## **Annex 6 – Council of the Doctoral School and Its Officers**

**Chair:** Gyula Simon, Professor, DSc

### **Members:**

József Abaffy, Professor Emeritus, DSc  
Aurél Galántai, Professor Emeritus, DSc  
László Horváth, Professor Emeritus, CSc (Director of Operations)  
Levente Kovács, Professor, DSc  
Miklós Kozlovszky, Professor, PhD  
Péter Nagy, Professor Emeritus, DSc  
Imre Rudas, Professor, DSc  
László Szeidl, Professor Emeritus, DSc  
József Tar, Professor, DSc  
Mark Bence Szigeti, Student Representative, Member with Consultative Rights

### **External Members:**

János Csirik, Professor (University of Szeged – SZTE), DSc  
János Abonyi, Professor (University of Pannonia – PE), DSc  
Róbert Fullér, Professor (Széchenyi István University – SZE), DSc

### **Program and Sub-Program Directors:**

Director of the Applied Informatics Program: Imre Rudas, Professor, DSc  
Director of the Foundations and Applications of Informatics Sub-Program:  
József Tar, Professor, Dr. habil., DSc  
Director of the Cyber-Medical Systems Sub-Program:  
Levente Kovács, Professor, DSc  
Director of the Cyber-Physical Systems Sub-Program:  
József Tar, Professor, Dr. habil., DSc  
Director of the Engineering Computations and Models Sub-Program:  
Imre Rudas, professor, DSc

Director of the Applied Mathematics Program: Aurél Galántai, Professor Emeritus, DSc  
Director of the Mathematical Foundations and Applications Sub-Program:  
Aurél Galántai, Professor Emeritus, DSc  
Director of the Engineering Computations and Models Sub-Program:  
Imre Rudas, Professor, DSc

#### **Annex 7 – Admissions Committee**

Chair: László Horváth, Professor Emeritus

Members: Árpád Baricz, Professor  
Péter Galambos, Professor  
Péter Nagy, Professor Emeritus  
Zsombor Zrubka, Associate Professor

#### **Annex 8 – International Advisory Board of the Doctoral School**

- Oussama Khatib, Professor, PhD, Stanford University, USA, Honorary Doctor of Obuda University
- Hamido Fujita, Professor, Iwate Prefectural University, Japan, Honorary Doctor of Obuda University
- Keith Hipel, Professor, University of Waterloo, Canada, President-Elect Academy of Science of the Royal Society of Canada, Honorary Doctor of Obuda University
- Fumio Harashima, Professor, President of Tokyo Metropolitan University, Japan, Honorary Citizen of Obuda University

#### **Annex 9 – Quality Assurance Plan**

In preparation for the introduction of a new, ESG-based accreditation system for the Doctoral Schools, the Councils of the Doctoral School of Applied Informatics and Applied Mathematics, the Doctoral School of Materials Science and Technologies, and the Doctoral School of Safety and Security Sciences have jointly developed a common ‘Quality Assurance Plan’. The core text of this plan is identical for all three schools, while the characteristics specific to each Doctoral School are set out in their respective annexes. This common core document is attached separately, along with the specific annexes pertaining to the DSAIAM.

In addition to the common core document, the Doctoral School shall annually define Doctoral School-level quality objectives and indicators, evaluate their achievement in writing, and attach an action plan to the evaluation.

The quality assurance system of the Doctoral School incorporates the regular monitoring of lecturers, research topic announcers, and supervisors, the tracking of supervisory workloads, and the systematic collection and processing of feedback from students, lecturers, and external partners.