

UNIVERSITY OF SZEGED
ALBERT SZENT-GYÖRGYI MEDICAL SCHOOL
DOCTORAL SCHOOL OF MULTIDISCIPLINARY MEDICAL SCIENCES

Head of the Doctoral School:
Prof. Dr. László Dux



QUALITY ASSURANCE AND DEVELOPMENT PLAN
OF THE DOCTORAL SCHOOL OF MULTIDISCIPLINARY MEDICAL SCIENCES

April 20, 2022

Contents

I. Fundamentals of quality assurance at the University of Szeged Multidisciplinary Medical Sciences Doctoral School.....	3
II. Quality assurance requirements of the Doctoral School of Multidisciplinary Medical Sciences at the University of Szeged	4
III. Quality assurance requirements during the doctoral admission process.....	10
IV. Quality assurance requirements during doctoral training.....	11
III. Quality assurance requirements during the doctoral admission process.....	12

I. Fundamentals of quality assurance at the University of Szeged Multidisciplinary Medical Sciences Doctoral School

The basis for quality assurance in teaching, scientific activity, and degree awarding procedures at the Doctoral School of Multidisciplinary Medical Sciences is provided by the relevant sections of Act CCIV of 2011 on Higher Education, the relevant sections of Government Decree 387/2012. (XII.19.) on doctoral schools, doctoral procedures and habilitation, the Regulations of the University of Szeged on Doctoral Training and Doctoral Degree Acquisition (hereinafter referred to as the SZTE Doctoral Regulations (registration number: SZ-13/2020/2021), which entered into force on November 28, 2016,

and in accordance with the document entitled "Standards and Guidelines for Quality Assurance in Higher Education in the European Higher Education Area (ESG)" and the SZTE Quality Assurance Regulations, the "Guidelines for Quality Assurance in Doctoral Training and Doctoral Degree Acquisition at the University of Szeged" (hereinafter referred to as the Guidelines) adopted by the University Doctoral Council on February 24, 2022. The Doctoral Regulations of the University of Szeged adopted by the SZTE University Doctoral Council (EDT) contain the aspects of quality assurance in doctoral training and degree acquisition and the requirements for their fulfillment.

The Doctoral School offers a two-cycle program (first cycle: theoretical credit-earning activities and the start of independent experimental scientific activities in the first two years, selection of a topic, and completion of a complex exam; second cycle: completion of independent scientific activity in the third and fourth years, publication of high-quality publications, preparation and submission of a dissertation, followed by the defense of the dissertation) theoretical and practical teaching work and research quality control in accordance with the relevant regulations of the University of Szeged, mainly:

- a) ensuring the background for the successful completion of the complex examination that determines and concludes the first cycle of the two-cycle training (announcement of credit-earning major and minor subjects, high-quality teaching, assessment, organization of complex examination committees, high-quality administration of complex examinations,
- b) publishing the publications required for the preparation of PhD theses, with the full requirement of a high impact factor,
- c) conducting the review process with the involvement of independent, recognized professional and scientific forums and experts (foreign experts if necessary),
- d) testing doctoral students in domestic and international competitions, where possible,
- e) e) monitoring the professional careers of those who have obtained a degree in the program and maintaining contact with them.
- f) Based on the above, our doctoral school's quality assurance formulates principles that, taking into account the quality assurance elements recommended by the Hungarian

Higher Education Accreditation Committee (MAB) in its 2019 strategic proposals, ensure that the training provided within the framework of our doctoral school, and the scientific performance of our doctoral students, the Multidisciplinary Medical Sciences Doctoral School (MODI) will continue to secure its place among the most prestigious domestic and international centers of multidisciplinary (theoretical and translational clinical medicine) medical science.

II. Quality assurance requirements of the Doctoral School of Multidisciplinary Medical Sciences at the University of Szeged

The MODI quality assurance guidelines place particular emphasis on ESG, EFQM, BSC, and QSC quality standards, models, and guidelines. The explicit aim of the MODI quality assurance draft is to reflect the following in the training requirements: a) planning, b) procedure, c) control, and d) feedback cycle, the values they represent, and the expected results.

Based on the above, the MODI quality assurance requirements are as follows:

- a) The doctoral school's current quality assurance plan was therefore developed based on the logic of planning – procedure – monitoring – feedback.
- b) Ensuring accountability is of paramount importance, as it guarantees the improvement of the quality of doctoral training. The data collection that forms the basis for accountability can be carried out on the basis of a three-step process involving the evaluation of the work of teachers and researchers, student evaluation, and self-evaluation, with the involvement of NEPTUN, Coospace, and the educational administration. The doctoral school prepares an annual quality assurance report for the University Doctoral Council on the implementation of the quality assurance plan, which is completed using a form developed by the Doctoral Institute. The impact and effectiveness of this will be measurable from the next academic year.
- c) MODI sends its annual quality assurance report to the Doctoral Council of Medicine and Pharmacy (TDT), and the Doctoral Council of Medicine and Pharmacy (TDT) submits its evaluation of the report to the University Doctoral Council, which reviews the report and informs the Senate in writing of the results.
- d) The primary task of the University Doctoral Council, in close cooperation with the Doctoral Institute of the University of Szeged, is to raise awareness of intellectual property protection. The Doctoral Council of Medicine and Pharmacy (TDT) is an intermediary body between the SZTE University Doctoral Council (EDT) and the MODI, which is responsible for ensuring the consistency of the quality assurance plans developed by doctoral schools at the level of scientific disciplines, based on the University Doctoral Training and Doctoral Degree Quality Assurance Guidelines, ensures the highest degree of consistency between the quality assurance plans of the doctoral schools belonging to SZAOK at the scientific field level.
- e) Increasing student and teacher satisfaction and well-being, objectively measuring the extent of this, and ensuring feedback are important elements of quality assurance, and

accordingly, cooperation has also been established between the Doctoral School of Medicine and Pharmacy and MODI.

Taking the above principles into account, our goal is to strengthen the culture of quality assurance, reduce intolerance, and promote equality. At the same time, we strive to achieve the standard of doctoral programs at leading European universities based on our quality assurance performance indicators. Knowing the work of internationally renowned institutions and participating in the procedures of some of them, we can conclude that the difference is not characterized by a lag in educational standards or methodological preparedness, but by existing differences in financing and administrative support. Improving these is linked to our efforts to increase the quality and quantity of scientific and educational indicators. At the same time, we strive to reach the level of doctoral programs at leading European universities based on our quality assurance performance indicators. Knowing the work of internationally renowned institutions and participating in the procedures of some of them, we can conclude that the difference cannot be characterized by a lag in educational standards or methodological preparedness, but rather by existing differences in financing and administrative support for background operations. Improving these is linked to our efforts to increase the quality and quantity of scientific and educational indicators.

In accordance with the provisions of the Doctoral Regulations of the University of Szeged, the internal rules of the Doctoral School of Multidisciplinary Medical Sciences are as follows:

1. The governing and representative body of the Doctoral School is the Doctoral School Council, whose permanent members are:

- a) the head of the doctoral school (academician or academic doctor, founding internal member),
- b) the deputy head of the doctoral school (academic doctor, founding internal member),
- c) the heads of training programs and main subject groups,
- d) the representative of multidisciplinary medicine in the University and Faculty Doctoral Council (if different from those mentioned in points a), b) and c)),
- e) an elected representative of the doctoral students with advisory rights. The elected representative of the students is a permanent member of the Doctoral School Council, continuously representing the quality expectations and interests of his or her fellow students, communicating their requests and any critical comments to the supervisors and lecturers. The opinions of doctoral students and those who have already obtained a degree in the program are reflected in the evaluation form compiled for this purpose, which is completed after the completion of each course and the training.

2) The Doctoral School Council meets regularly, usually twice a semester, but may also be convened for extraordinary meetings. The Doctoral School Council and its meetings are chaired by the head of the Doctoral School or, if necessary, by the deputy head. At the request of the head of the Doctoral School, invited guests may also attend the Council meetings. The meeting

shall have a quorum if the head or deputy head of the school and two-thirds of the permanent (voting) members are present. 3) The primary goal of MODI is to ensure that its training meets the requirements of student-centeredness, including fair and proportionate learning, teaching, and assessment, and, in terms of usefulness, to meet the relevant expectations. To this end, it has prepared a comprehensive, unified guide in Hungarian and English covering the entire training program, from the student admission process to the entire mechanism of training, the complex exam, the preparation of the dissertation, its defense, and the receipt of the diploma. The school's goal, as will be seen in the elements below, is to organize the assessment mechanism for admissions, workshop seminars, and the comprehensive exam in such a way that students demonstrate their knowledge before a committee, their evaluation is a collective decision that is made publicly, and, if necessary, includes a written evaluation in addition to grades and points.

Based on the above, the Doctoral School Council is responsible for:

- a) announcing doctoral courses, providing professional supervision,
- b) evaluating the annual work of doctoral students,
- c) making recommendations for the chair and members of the admissions examination committee, then ranking the admissions examinations based on the committee's report,
- d) determining the topics of the entrance examinations,
- e) assessing the aptitude of applicants for a doctoral degree; evaluating the results of preliminary studies, checking publication requirements,
- f) making proposals for initiating the degree award procedure and determining the subjects of the doctoral comprehensive examination,
- g) making proposals for the members of the examination committee, the opponents of the dissertation, and the composition of the public debate review committee,
- h) making proposals for the award of doctoral degrees based on the results of the doctoral examination and the public defense of the dissertation, i) professional evaluation of doctoral students' study applications and doctoral candidates' applications for degree conferral.

4) The tasks of the Doctoral School Council in relation to economic issues affecting the doctoral school are:

- a) allocating the amount of training subsidies among training programs,
- b) making proposals regarding the amount of cost reimbursements and deciding on the use of revenues from cost reimbursements,
- c) financial control of doctoral school-level applications related to training.

5) The determination of requirements referred to the competence of doctoral schools by the Doctoral Regulations of the University of Szeged is the responsibility of the Doctoral School

Council, which includes, among other things:

- a) the designation of main and secondary subjects for complex examinations and the approval of their topics,
- b) the publication requirements for obtaining a doctoral degree,
- c) the requirements relating to knowledge of foreign languages, d) the language and formal requirements of the dissertation,
- e) the designation of the circle of persons who must be invited to the defense of doctoral dissertations,
- f) the determination of the criteria to be followed in evaluating the performance of doctoral candidates and the evaluation based on those criteria.

The details of the requirements of the Multidisciplinary Medical Sciences Doctoral School are contained in the appendices to the Doctoral Regulations of the University of Szeged relating to the field of medical sciences (the joint Doctoral Schools of the Albert Szent-Györgyi Medical School and the Faculty of Pharmacy).

6) The Doctoral School Council actively participates in organizing doctoral examinations and public discussions of doctoral dissertations.

7) The Doctoral School Council determines the quality assurance criteria for the Doctoral School of Multidisciplinary Medical Sciences and continuously monitors compliance with quality requirements.

The basic principle of quality assurance is transparency, therefore annual reports are published on the website, while the original signed and stamped paper versions are kept in the school council's archives. The MODI secretariat is responsible for storing and managing these documents. The current MODI quality development officer is Tünde Bodnár, who reviews, coordinates, and consults with the school principal on the tasks that arise.

In addition to the MODI quality assurance officer, a separate communications officer assists with the work, whose task is to ensure that all school regulations, forms, training plans, and subject descriptions are published on the website in Hungarian and English. Everyone is responsible for regularly updating the OTD (doktori.hu) database with information on instructors and supervisors, while the MODI secretariat, currently also headed by Tünde Bodnár, is responsible for entering data related to administrative authorizations. The procedure for student complaints, appeals, and legal remedies, taking into account the provisions of the university's doctoral regulations, is as follows: The doctoral school council appoints one of its members to the appeals, complaints, and legal remedies committee, which also includes one instructor-supervisor. The leadership tasks are performed by the head (and deputy head) of the MODI School.

Appeal protocol against decisions:

1. First level: Doctoral School Council ;
2. second level: Doctoral Council of Medicine and Pharmacy (TDT);

3. third level: SZTE University Doctoral Council (EDT);
4. final level: Rector.

In matters concerning student status, the Doctoral School Council is the deciding body, with the appeal options specified above.

The Doctoral School aims to ensure the outstanding quality, maintenance, and development of the professional and scientific preparedness of supervisors, instructors, and researchers, as well as the preservation of their competitiveness, primarily by facilitating their integration into domestic and international scientific life and strengthening their existing relationships, and, to the extent possible, by providing financial support. Furthermore, it strives to reduce the currently excessive participation requirements in lower-level education, administration, and other non-professional areas.

Transparent data reporting covering all teachers and supervisors helps to ensure that, in addition to internal accreditation, re-accreditation also becomes a continuous process, and that we can regularly weed out those topics and supervisors that do not meet the criteria. MODI has developed a uniform approach for supervisors, thesis writers, and instructors, which also complies with the criteria set by other medical and pharmaceutical schools. Accordingly, supervisors, thesis writers, and instructors must have an academic degree recognized by the MAB. They are actively present on domestic and international scientific platforms, regularly publish high-quality articles in foreign languages, which they also publish on MTMT2. They strive for the highest level of domestic and international scientific cooperation. They have domestic and/or international academic grants that secure the financial resources for their research activities. They perform their teaching work at a high level, demonstrating their ability to play a role in the education of the next generation of academics. They meet the requirements for academic advancement appropriate to their age.

The admission procedure for MODI instructors, thesis writers, and thesis supervisors is as follows:

- a) The program concerned prepares a written proposal on the colleague to be admitted, attaching their professional CV and a selected list of publications (MTMT2 is used). The head of the program initiating the proposal supplements the proposal verbally at the school council meeting, justifying their recommendation and its significance from a research, academic, and student perspective. A secret ballot is held on the material and the proposal. The material is presented by the school principal at the regular Doctoral Council of Medicine and Pharmacy (TDT), where a vote is taken on the acceptance of the school council's decision. MODI provides an opportunity for external or other doctoral school supervisors with a topic to fulfill the role of supervisor. The quality requirements for them are the same as for colleagues employed by the university. They must undergo the same quality assurance procedure. The school's goal is for external colleagues to become full-fledged supervisors (through voluntary contracts). It is also possible to have dual supervision, in which case it is not necessary to admit the person to the school's supervisors, because the task of supervision is undertaken by an internal member.

- b) One of the goals of the Doctoral School Council is to recruit colleagues who are not employed at our university as lecturers and supervisors for the following two reasons: Many outstanding professionals work at external institutions (MTA and ELKH research institutes) whose specialized professional knowledge would undoubtedly strengthen the doctoral school, but who would not otherwise have the opportunity to participate in the training of the next generation.
- c) One of MODI's primary goals is to include student evaluations of instructors in the evaluation of instructors. The Faculty Quality Assurance Plan specifically addresses the Student Evaluation of Teaching (OMHV questionnaire), which it undertakes to administer, evaluate, and provide feedback on. A questionnaire has been developed that allows for the electronic and anonymous evaluation of all instructors for each course unit each academic year. Data collection is automatic and digital. MODI strives for the continuous improvement of the educational environment.
- d) From the very beginning of the doctoral program (1993), the teaching staff of the doctoral school has launched and developed the training of foreign-language students, foreign-language teaching materials, and a network of contacts in order to better meet the new challenges arising from the internationalization of the school. The school has always had a very extensive international network of contacts, which has been further developed thanks to the significant number of students arriving on Stipendium Hungaricum scholarships. Another ongoing quality assurance measure at the school is to make it natural for an increasing number of teachers, thesis writers, and thesis supervisors to teach classes and supervise dissertations in foreign languages.

III. Quality assurance requirements during the doctoral admission process

The Doctoral Regulations, compiled for students, contain detailed information on the admission procedure, as well as the rules governing the entire training period, the complex examination and the dissertation, and the complete schedule for obtaining a degree.

The admission exams for the Multidisciplinary Doctoral School are conducted by committees organized by the subprograms. A committee consists of at least three members, supplemented by a PhD student. Applicants are evaluated on the basis of their application materials and an oral admission exam. During the oral exam, the student's academic activities, thesis and/or diploma project, foreign language skills, and planned research topic are discussed in a general professional conversation.

At the end of the oral exam, the applicant must again declare whether they are applying exclusively for a state-funded place or whether they wish to complete their doctoral studies on a fee-paying basis (for example, because they are working full-time elsewhere), if there is a state-funded place available, they would start their studies in that form, but if not, they would also agree to join the fee-paying program. The total number of points that can be obtained during the procedure is 100. Based on the scores achieved, the MODI School Council ranks the applicants and then, based on the ranking, makes an admission recommendation to the Doctoral Council of the Faculty, which submits the list of recommended applicants to the University

Doctoral Council. The latter body decides on the number of state-funded places and places available on a fee-paying basis. Applicants will receive official notification of their admission (and its form: state-funded/fee-paying) or rejection during the summer.

If the pandemic situation allows, admissions will always take place in person at the headquarters of the institutes or departments affiliated with the SZTE MODI School. MODI's two-year quality assurance report includes the annual experiences of the admissions process.

IV. Quality assurance requirements during doctoral training

The personnel and material conditions of MODI are based on the infrastructure of the departments and institutes associated with the MODI School at SZTE SZAOK and ELKH Biological Research Center, including the material and personnel conditions of these research sites. MODI cooperates with the faculty management of SZAOK to implement the necessary developments. The school is conservative in its assessment methods, using traditional assessment systems such as colloquiums, essays, and independent research papers. In the case of admissions, complex exams, internal defenses, and public defenses, it ensures that the assessment is the result of a collective decision.

In addition to compulsory lectures, we hold compulsory special exercises, which are taught by the lead instructors and professors of each program. The rest of the training is largely tutorial-based, with supervisors playing a major role in most programs in guiding students' individual academic activities and in writing and publishing international English-language academic papers that form the basis of dissertations. They are primarily responsible for monitoring the progress of students. At the same time, the high-credit Individual Research Work, which covers each semester, and the annual written report provide a clear picture of the student's individual progress. Student progress can also be illustrated with objective data from Neptun.

Student publications are digitized by the SZTE Klebelsberg Library, which also keeps multiple copies of the printed versions. All completed dissertations can be found in the SZTE Doctoral Repository (<http://doktori.bibl.u-szeged.hu>). PhD students are required to register with MTMT2 at the beginning of their doctoral studies. The requirement for a completed dissertation is 2-3 published (or accepted) scientific publications, which must appear in foreign-language journals certified by Scimago and/or authenticated by the Science Citation Index with an impact factor. The minimum requirements for the cumulative impact factor and Scimago rating of the papers related to the dissertation differ for different scientific fields (pharmacology, biochemistry, molecular biology, etc.). These are included in the SZTE Medical and Pharmaceutical Sciences Doctoral Council of Medicine and Pharmacy (TDT) Doctoral Degree Regulations. We use MTMT2 to check this. The procedure and requirements of the complex exam, as well as the system of evaluation criteria, are decided at the program level. At the beginning of the exam semester, students receive the exam topics and the set of criteria for their own scientific research. We also publish the personalized exam materials on our website. The materials, readings, and questions prepared by the programs, as well as the examiners appointed or invited by the programs, are reviewed and voted on individually by the school council. The school principal then submits the complete complex examination material to the Doctoral Council of

Medicine and Pharmacy (TDT), where it is reviewed again and voted on. This multi-round process ensures objectivity and impartiality. The quality requirements for members of the complex examination committee are verified by the school board and the Doctoral Council of Medicine and Pharmacy (TDT). The chair may only be a professor at the University of Szeged with an academic doctorate and/or university title, or possibly emerita/emeritus. One of the committee members is also employed by the university. The school council decides on the person based on the program's recommendation, which the Doctoral Council of Medicine and Pharmacy (TDT) either approves or rejects. The other member must be an external member, a domestic or foreign authority in the subject and field. The person is selected based on the above mechanism. The supervisor cannot be a member of the examination committee, but may attend the defense without participating.

MODI adapts to changes and the professional interests of domestic and foreign topic writers and supervisors affecting the school, reviews its compulsory and elective courses annually, and revises the Training Plan, during which course titles and topics may be revised and new courses may be announced. MODI submits the updated Training Plan to the Doctoral Council of Medicine and Pharmacy (TDT), which approves it if it agrees.

V. Quality assurance requirements during doctoral studies

1. The process of obtaining a degree at the doctoral school is regulated in detail as follows: The publication and foreign language requirements set as prerequisites for the degree award procedure are checked by the defense coordinator at the SZAOK PhD Secretariat when applying for the public defense procedure.
2. The material for the public procedure must be compiled in accordance with the rules laid down in the guidelines, which include information on language skills and publication requirements. If all the requirements and conditions are met, the PhD Secretariat forwards the application materials submitted for the degree procedure to the head of the school, who, in cooperation with the programs, makes a proposal for the members and alternate members of the defense committee, which is submitted to the Doctoral Council of Medicine and Pharmacy (TDT). The defense procedure is confidential, and committee members vote by a show of hands. If the procedure is conducted in a foreign language (e.g., candidates who are native speakers of a foreign language and students of the Stipendium Hungaricum program, etc.), then the members of the committee for the degree procedure conducted in a foreign language must not only be outstanding experts in the field, but also have a high level of proficiency in the language of defense.
3. The MODI procedure pays particular attention to filtering out results obtained through data fraud and plagiarism. The detection of data obtained through fraud or falsification, as well as copied data published without citing the source (plagiarism), is a priority task in the editing of scientific papers and dissertations required for the award of a doctoral degree. The MODI School requires that degrees be earned through independent scientific medical research based on the student's own results, which must be verified in original

scientific papers published in English. These papers and reviews are strictly checked for plagiarism during the multi-stage peer review process of international scientific journals, so there is no need for the doctoral school to check them. According to the regulations of the MODI School, the dissertation must be based exclusively on papers that have passed through the peer review filter based on these original scientific researches, therefore checking the dissertation for plagiarism is unnecessary and, at the same time, misleading, because in this case self-plagiarism is evident. Modern biomedical research is conducted in extensive teamwork, so it is reasonable that a thesis presenting research results has many authors, many of whom are doctoral students. However, according to the regulations, a given scientific result can only be used as one's own result in the thesis of one doctoral candidate. In the case of multi-author papers, the results of a given scientific paper can therefore be used by several doctoral students as their own scientific results on which to base their dissertations. The result in question may be a set of experimental data produced using a specific technique (e.g., a figure or table) or a partial scientific result on which the conclusions of the paper are based. This is determined by the author responsible for the thesis, who certifies in a statement attached to the thesis that the scientific result in question is the doctoral student's own work and that no other doctoral student has presented that result in another thesis.

4. The given subprogram of MODI may determine whether the public defense is preceded by an internal defense and, if so, in what form. The most important of these is that, in addition to the opinions of the two opponents, all persons present, whether they hold a degree or not, may form an opinion on the doctoral dissertation presented. All those present have the right to vote, but the internal defense is only official and valid if at least five colleagues with degrees have cast their votes. In this case, the discussion may be led by any invited member of the program, even the supervisor. The minutes of the discussion and the results of the vote must be recorded on a pre-prepared form, which all participants must sign to certify its authenticity.
3. The public defense process is laid out in writing and is specified in detail in the Doctoral Regulations prepared for students. The chair may only be a professor at the University of Szeged with an academic doctoral degree and/or university title, or possibly emeritus. Based on the selection of the committee, at least two members must be external and may not be employed by the University of Szeged. Accordingly, at least one of the opponents must be an external, nationally or internationally recognized representative of the scientific community. The supervisor may not participate in the defense committee. The defense schedule is based on a uniform system, and the committee members vote secretly based on the opinions of the two opponents, the candidate's response, and the quality of the answers to the questions asked. Each member present may award a maximum of 5 points. The defense committee compiles a written evaluation report, which it publishes together with the results of the vote in points and percentages. The evaluation must highlight what the committee accepted as new scientific results from the candidate's own scientific activities. It is not within the competence of MODI to change the uniform system, but any proposals to this effect shall be forwarded to the higher authorities.

Szeged, April 20, 2022.

Dr. László Dux
Head of Doctoral School