



University of Pannonia

**CHEMICAL ENGINEERING AND MATERIAL
SCIENCES DOCTORAL SCHOOL
QUALITY ASSURANCE PLAN**

Entry into force: 27/05/2021

Valid until further notice

Responsible for maintaining the regulation: Faculty of Engineering, head of CEMSDS

CONTENT

1.	INTRODUCTION	3
1.1.	<i>Position of CEMSDS within the university's organizational structure</i>	3
1.2.	<i>The role of CEMSDS's quality management within the university's quality management organization</i>	4
2.	CEMSDS QUALITY MANAGEMENT	5
2.1.	<i>CEMSDS Quality Policy</i>	5
2.2.	<i>The quality capabilities and quality of CEMSDS</i>	5
2.3.	<i>The CEMSDS Quality Management System</i>	6
3.	CEMSDS PROCESS CONTROL AND COMPLIANCE	6
3.1.	<i>Principle</i>	6
3.2.	<i>Regulation of the doctoral program in terms of process and compliance</i>	8
3.2.1	Requirements for the Doctoral and Habilitation Council of the Academic Discipline	8
3.2.2.	Selection of Faculty Members and Advisors for the Doctoral School	8
	The provisions governing the selection of the Director, core members, faculty, advisors, and doctoral students of the Doctoral School are set forth in Section 2 of the CEMSDS Operating Regulations.	8
3.2.3.	The Doctoral School's Curriculum	8
3.2.4.	Announcement, approval and publication of doctoral thesis topics.	8
3.2.5.	Admission Process for Doctoral Students	8
3.2.6.	The educational and research process	8
3.2.7.	Submission and defense of a doctoral dissertation; awarding of a degree	9
3.2.8.	Evaluation of Doctoral Programmes and Their Improvement Procedures	9
4.	CEMSDS QUALITY CONTROL	9

1. Introduction

1.1. Position of CEMSDS within the university's organizational structure

Doctoral study and degree qualification are part of university education and are linked to master's programs and specialized continuing education (Figure 1).

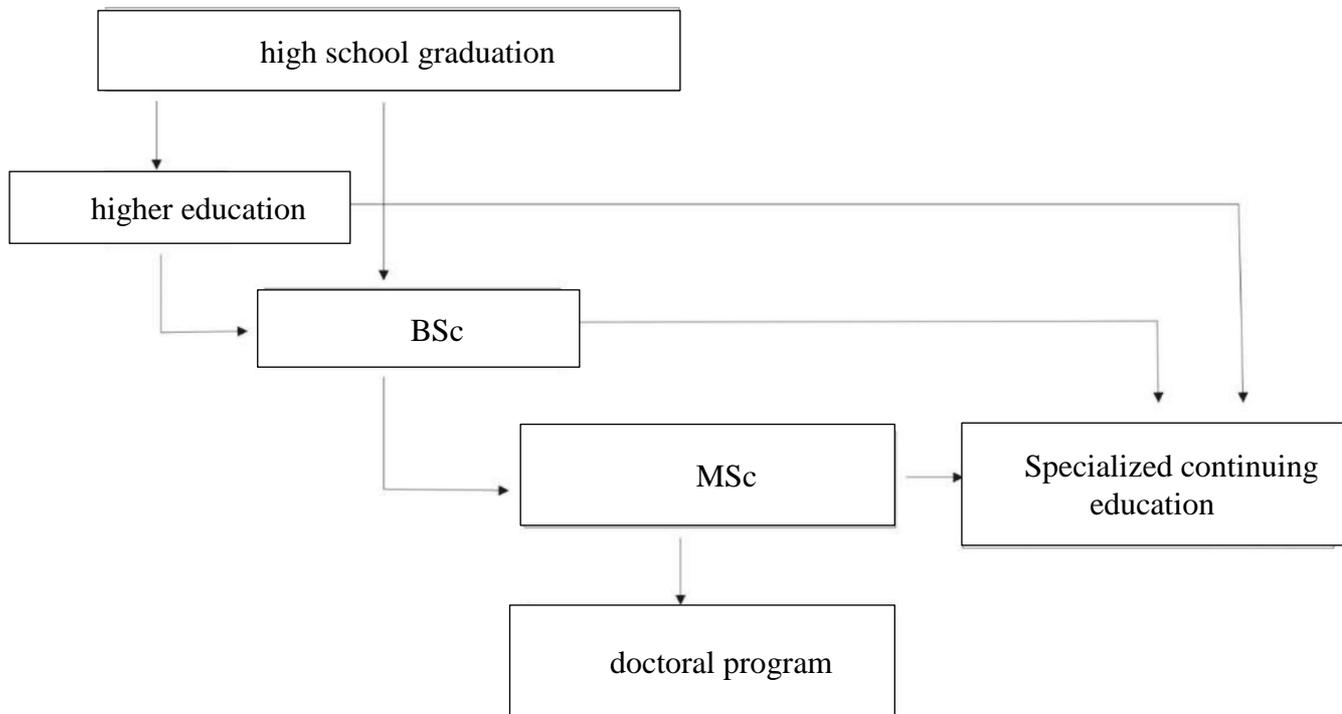


Figure 1: The position of doctoral studies in the overall educational system

The rector is responsible for doctoral training and degree certification, and the University Doctoral and Habilitation Council (UDHC) serves as the highest governing body. The Senate oversees the UDHC. The organizational unit responsible for doctoral training and degree programs is the doctoral school. The Disciplinary Doctoral and Habilitation Council (DHC) Directly manage the doctoral school, and its governing body is the UDHC.

The Doctoral Office (DO) supports the work of the UDHC and the DHC. The structure for doctoral education and degree conferral consists of the UDHC, the DH, the DHC, and the Doctoral Schools (DS) (Figure 2).

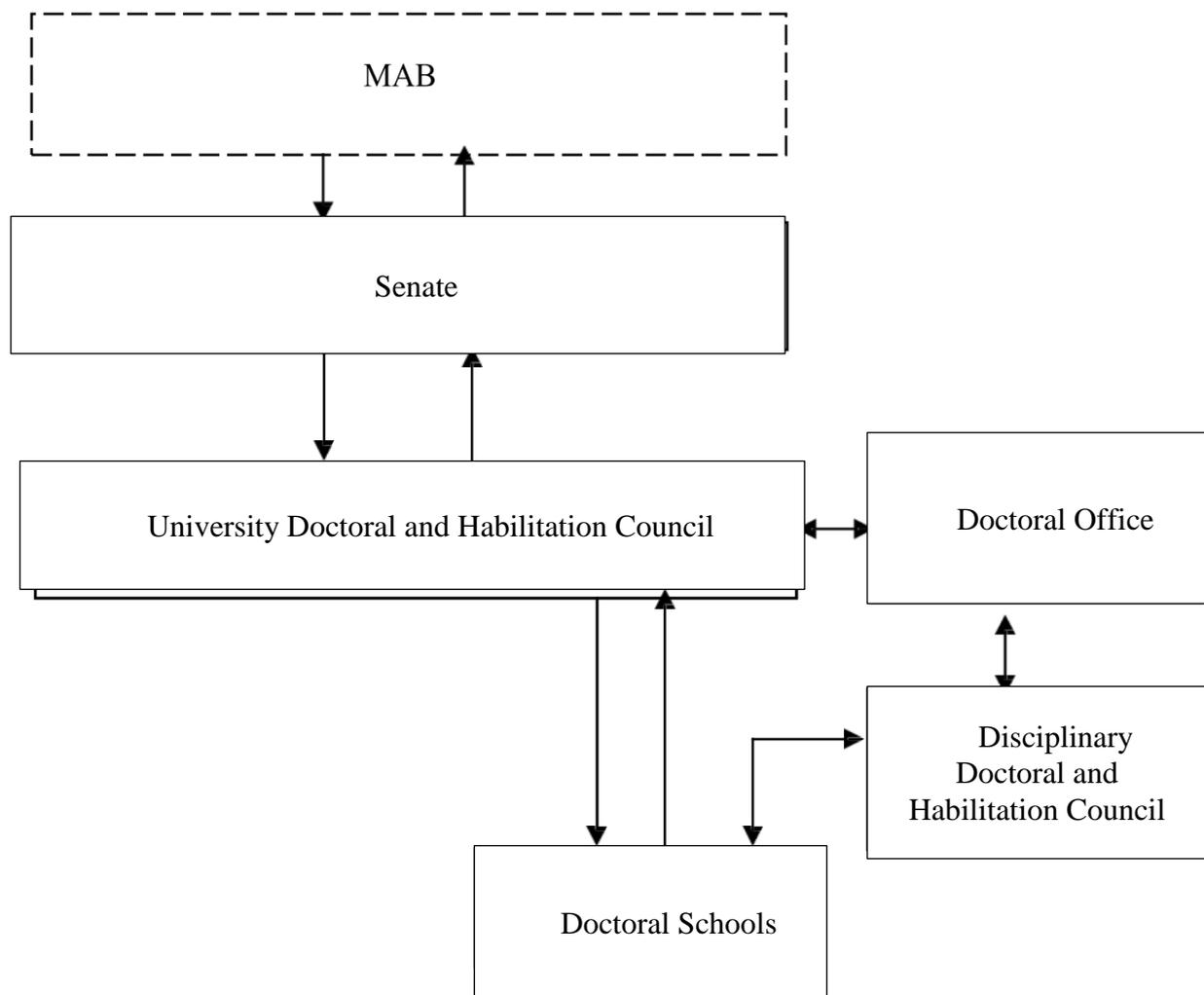


Figure 2: The position of the doctoral school within the university's management system

1.2. The role of CEMSDS's quality management within the university's quality management organization

The Rector is responsible for the quality of doctoral education and degree conferral. This system is part of the university's overall quality management system. This system is overseen by the Doctoral Council's quality management officer. The DS is an independent management unit responsible for doctoral education and degree conferral from a quality assurance perspective. The DS's quality management system is managed by the quality management director of the doctoral school. Figure 3 illustrates the position of the doctoral school's quality management system within the university's quality management organisation.

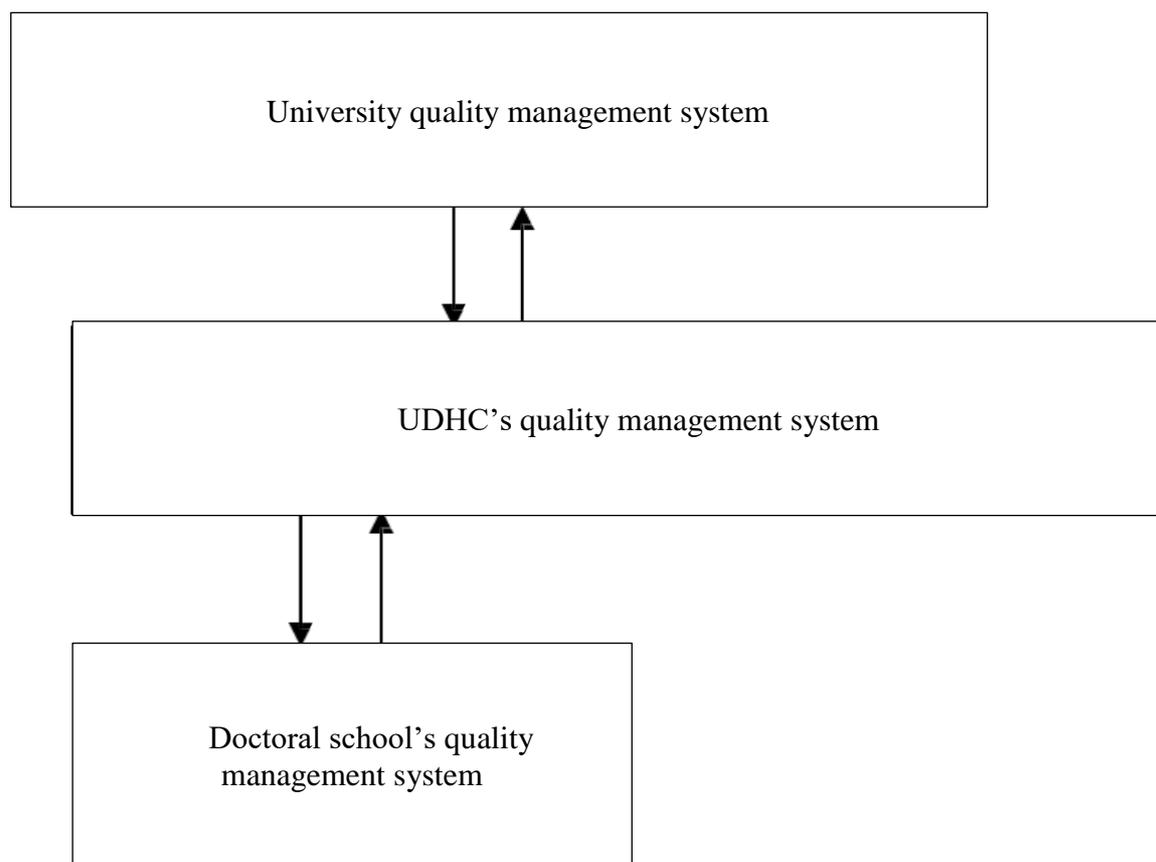


Figure 3: The position of the doctoral school's quality management system within the university's wider quality management structure.

The DS quality management system must be linked to the quality management system for master's and specialized continuing education programs (Figure 1).

2. CEMSDS Quality Management

2.1. CEMSDS Quality Policy

Drawing on 70 years of experience and the traditions of the petroleum and coal processing industry, silicate chemistry, and the inorganic chemical industry, as well as schools specialising in chemical engineering operations and process control, the internationally renowned School of Chemical Engineering in Veszprém has a strong international reputation. In line with the doctoral school system at the University of Pannonia, which evolved from the Universitas, CEMSDS aims to deliver a doctoral programme that educates highly qualified doctors specialising in bioengineering, chemical engineering, environmental engineering and materials engineering who are dedicated to intellectual life. Our quality policy aims to ensure that our graduates serve the economic development of our country in a creative and effective manner, successfully establishing themselves in fields related to their respective disciplines and promoting the development of domestic higher education and scientific life. This will enable them to become the next generation of scholars.

2.2. The quality capabilities and quality of CEMSDS

The quality of a doctoral programme is determined by the organisation's values and intellectual culture (particularly the academic competence and research output of supervisors and faculty), its infrastructure, and its capabilities, including the system supporting student training and its network of

international relationships.

The quality of a doctoral programme is reflected in the satisfaction of those involved in the training and degree-awarding process, including economic actors, the academic community, students, the university, supervisors and faculty. Quality can be assessed based on satisfaction levels and appropriately selected performance indicators.

2.3. The CEMSDDS Quality Management System

CEMSDDS has established and is operating a quality management system to maintain and continuously improve the quality of doctoral education and degree conferral. To this end, the administration has appointed a quality assurance manager for the doctoral school and ensures that all necessary conditions for establishing and operating the quality management system are met.

To ensure the operation of the CEMSDDS quality management system, the quality management documentation system (“Quality Management Policy of the University of Pannonia,” “Quality Assurance Policy and Procedures of CEMSDDS”) and the quality management information system are developed under the supervision and with the participation of the quality assurance manager.

3. CEMSDDS Process Control and Compliance

3.1. Principle

At CEMSDDS, quality control must be achieved through process control, ensuring compliance among the processes, key individuals, organisations, programmes and systems involved.

Our aim is to ensure the continuous improvement of doctoral programme processes by conducting evaluations based on measuring participant (student and faculty) and employer satisfaction. To this end, we have organised the programme's sub-processes into a workflow, deriving the quality objectives of each sub-process from the doctoral school's requirements and supplementing them with additional specifications tailored to professional characteristics. Figure 4 illustrates the sequence of sub-processes and the requirements and regulations that serve as guidelines, as well as the feedback system based on evaluations.

We have identified the participants in the given sub-process, as well as the supervising or managing university organisations. We have used abbreviations for both.

University of Pannonia, Chemical Engineering and Material Sciences Doctoral School
Quality Assurance Plan

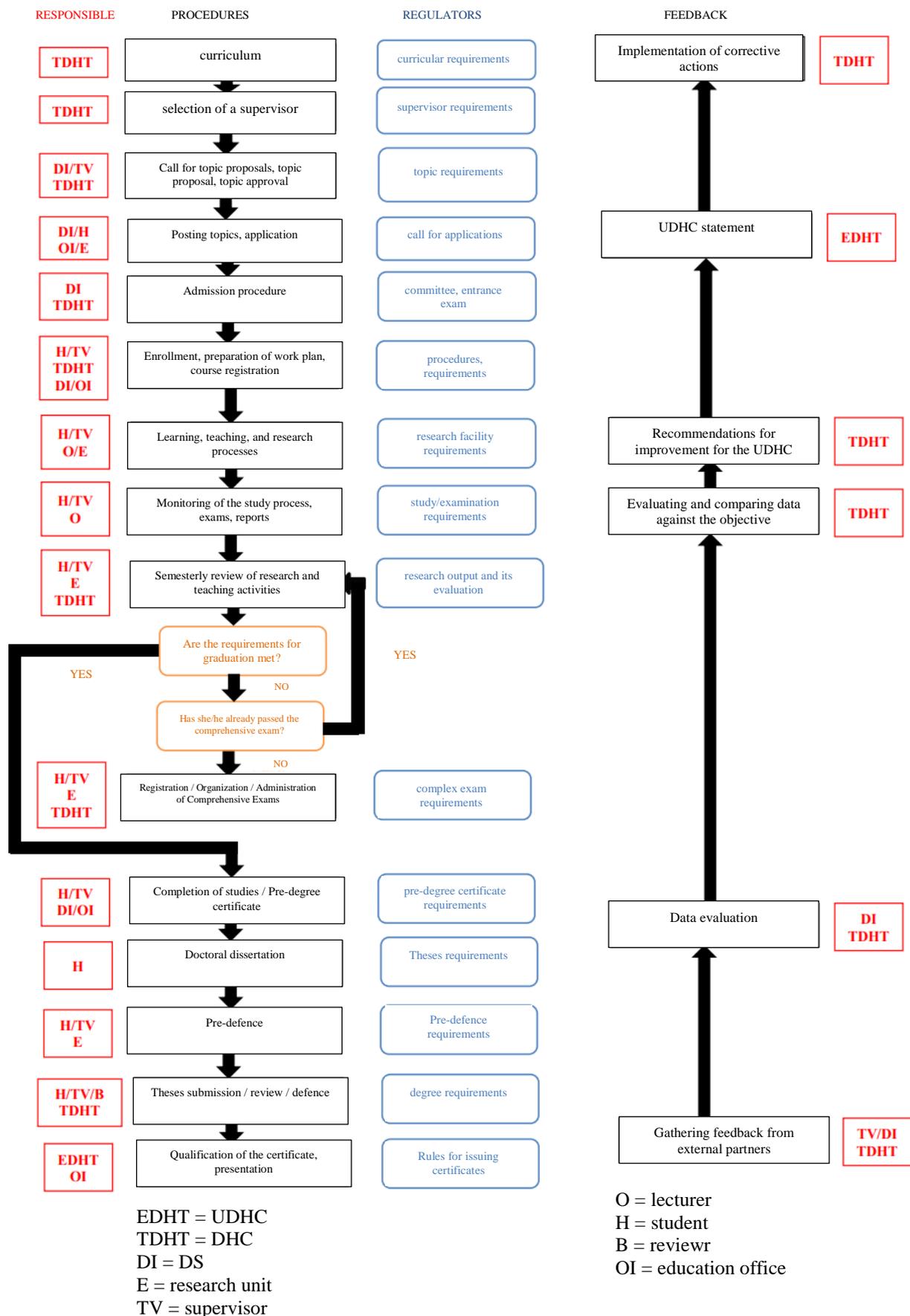


Figure 4: Processes and Responsible Parties

3.2. Regulation of the doctoral program in terms of process and compliance

3.2.1 Requirements for the Doctoral and Habilitation Council of the Academic Discipline

The provisions governing the election of the Doctoral and Habilitation Council, and defining its duties, responsibilities and operations, are set out in Sections 3 and 5 of the CEMSDS Rules of Procedure.

3.2.2. Selection of Faculty Members and Advisors for the Doctoral School

The provisions governing the selection of the Director, core members, faculty, advisors, and doctoral students of the Doctoral School are set forth in Section 2 of the CEMSDS Operating Regulations.

3.2.3. The Doctoral School's Curriculum

The curriculum developed by the CEMSDS Forum and accredited by the MAB may only be modified in accordance with the accrediting body's guidelines. Changes may be made in the following cases:

- a) At the recommendation of the MAB.
- b) If, based on the measurement of participant satisfaction, DHC deems corrective actions necessary.
- c) If the institution is unable to provide teaching for any of the courses listed in the curriculum, the DHC will either recommend hiring an external instructor or suggest incorporating an alternative course into the curriculum.
- d) The curriculum is to be updated to include educational content and subjects that keep pace with the rapid advances in science.

3.2.4. Announcement, approval and publication of doctoral thesis topics.

In the CEMSDS doctoral programme, doctoral topics may only be proposed in subject areas included in the Doctoral School's objectives that fall within the relevant field of study and align with the specified main research directions. When selecting topics, the subject areas declared by the core members and other doctoral schools at the university must be taken into account. If a proposed topic could belong to another Doctoral School, it will be announced and classified based on consultation between the relevant two DHCs, or the heads of the two Doctoral Schools if authorised. Any disputed cases must be reported to the UDHC in writing. Further formal and organisational requirements relating to the proposal, approval and announcement of doctoral topics are set out in the CEMSDS Operating Regulations.

3.2.5. Admission Process for Doctoral Students

The requirements for the admissions process are set out in Section 6 of the CEMSDS Operating Regulations. The Director of CEMSDS submits the minimum admission scores and the list of recommended students to the UDHC for approval, based on the Admissions Committee's recommendation and minutes. The minutes of the admissions examination are prepared by the DS Secretary and certified by the Admissions Committee Chair. To be admitted to the Doctoral School, a score exceeding 50% of the available points must be achieved. The UDHC determines the points awarded for various criteria.

3.2.6. The educational and research process

The formal aspects of the educational process, namely the courses, requirements for individual curriculum design and 7-credit performance requirements, are set out in the curriculum and CEMSDS Operating Regulations. Performance is documented through course records (NEPTUN), semester-long topic reports and written research plan materials and minutes. These documents must be authenticated by the signature of the thesis advisor and the minutes by the signatures of the lead faculty members of

the doctoral research tracks. The minutes must also include an evaluation of the doctoral student's progress in relation to the timeline. The DHC evaluates the supervisor's performance annually, taking into account the doctoral student's performance, as well as the training and research conditions. The DHC will establish the evaluation criteria after its formation. The head of the department in which the doctoral student is involved in teaching issues a statement regarding their teaching performance and the recognition of this through academic credits. In the area of research, performance eligible for the supervisor based on research documents (e.g. articles and presentation abstracts) submits academic credit submitted to the DHC and verified by the Director of the Doctoral School. The minimum number of publications required is specified in Section 8.4 of the CEMSDS Operating Regulations.

3.2.7. Submission and defense of a doctoral dissertation; awarding of a degree

Before submission, the doctoral dissertation must undergo an internal review, which serves as a preliminary professional and academic evaluation aimed at providing feedback prior to final submission. The responsibility for organizing this review lies with the organizational unit where the student conducted their Ph.D. research. An academic organization (academic working committee) operating in the relevant field of study may, upon request, assume the role of the internal defense. The Ph.D. dissertation to be defended in the internal defense must be reviewed by two external reviewers. Minutes and an attendance sheet must be kept for the internal defense, and those present shall decide by majority vote on whether the dissertation may be submitted for public defense. The minutes are certified by the chair and submitted to the DHC. The regulations governing the submission, defense, and evaluation of the dissertation, as well as the issuance of the degree, are set forth in the university's doctoral regulations.

3.2.8. Evaluation of Doctoral Programmes and Their Improvement Procedures

The DHC establishes the methods and rules for measuring the effectiveness of teaching and research. Based on evaluations conducted in accordance with these guidelines and satisfaction surveys of participants (doctoral students in their fourth semester, postgraduate faculty members and employers on an ad hoc basis), the DHC defines and implements quality improvement measures, monitors their implementation and evaluates the results achieved.

4. CEMSDS Quality Control

The CEMSDS leadership considers continuous quality improvement to be a fundamental principle. To this end, the leadership intends to implement the following key activities:

- continuous refinement of the university's and its students' values;
- a SWOT analysis of CEMSDS based on stakeholder opinions in the doctoral school;
- assessment and monitoring of stakeholder satisfaction, particularly that of doctoral students, employers and supervisors, as well as handling complaints;
- selection and continuous monitoring of key quality indicators characterising CEMSDS quality;
- analysis of data, indicators and information obtained from the SWOT analysis, satisfaction surveys and quality-related sources;
- identification and implementation of quality improvement opportunities.

To achieve the above, we are continuously establishing and improving the following systems:

- the management review system;
- the internal quality audit system;
- the quality training system;
- the customer satisfaction survey system.

Additional quality assurance tools:

- DHC meetings are convened to address ongoing matters.
- Semiannual evaluation of doctoral students' progress reports.
- Annual DHC evaluation meetings, at which the DHC assesses the previous year's work and assigns further tasks.
- In all cases where a review of the doctoral school's operations is necessary (e.g. due to a change in leadership, accreditation or university reorganisation), the DHC evaluates the DS's operations and formulates measures.
- With the assistance of the DHC's student representative, it solicits the opinions of doctoral students regarding the programme annually. It formulates measures based on these opinions.
- Regular updates to the doctoral school's website at least once a month, through which information reaches all DS faculty members and students.