



Internal Evaluation Report for the New Doctoral Study Program

Food Engineering
– Institution Organizing Doctoral Studies-
-IOSUD-TUCN-
2022

TECHNICAL UNIVERSITY OF CLUJ-NAPOCA

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Internal Evaluation Report of the New Doctoral Study Domain

Food Engineering

- Institution Organizing Doctoral
Studies – Technical University of
Cluj- Napoca (IOSUD- TUCN)**

2022

MINISTRY OF EDUCATION



TECHNICAL UNIVERSITY
OF CLUJ-NAPOCA, ROMANIA

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of Cluj-Napoca (IOSUD-UTCN)**

TUCN Doctoral School

Field of study: Food Engineering

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The data contained in this Report are complete, correct and in accordance with the principles of professional ethics.

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INTRODUCTION

The Technical University of Cluj-Napoca (TUCN) comprises in 2022 twelve faculties operating in the two university centers, Cluj-Napoca and Baia Mare, to which are added the university extensions of Alba Iulia, Bistrița, Satu Mare and Zalău. This organizational structure gives the university a strong regional dimension, which personalizes and essentially differentiates it from other universities in the country, the TUCN image being, in fact, an image of technology, advanced scientific research, innovation and artistic creation in this area of Romania.

Today, at TUCN over 20,000 students study, guided by 910 teachers and researchers, along with 876 members of the auxiliary and non-didactic staff. The education offer of the university includes 91 undergraduate programs, 92 master programs, 14 doctoral fields as well as continuing education programs, psycho-pedagogical training and postgraduate academic studies.

The mission declared in **TUCN Chart** ([Annex 1.1.7. TUCN Chart](#)) and the development vision for the period 2020-2024 strongly directs the university towards an approach that combines the concern for excellence with the assumption of responsibility both by members of the academic community and by its leaders for their contribution to the progress of the institution. Quality is considered by TUCN to be one of the priorities on which the university strategy is structured in the period 2020-2024.

The Doctoral Studies represent the third cycle of university studies and allow the acquisition of a level 8 qualification from the EQF/CEC and from the National Qualifications Framework, obtaining the doctoral title according to the Code of Doctoral Studies. The doctoral study programs organized within the Doctoral School of TUCN are of the scientific doctoral type, which has as finality the production of original scientific knowledge with international relevance.

The conceptual structure of the TUCN strategic plan includes the concern for increasing the quality of doctoral studies, followed by the assumption of the need to develop an adequate management system. The areas and directions of intervention through measures that materialize this approach are strengthening excellence in scientific research and innovation, strengthening and developing relations with the socio-economic environment, developing international academic relations, developing and supporting human resources, modernizing and developing university infrastructure.

This Report was prepared in order to establish the new field of doctoral studies in **Food Engineering** within the Doctoral School of IOSUD - Technical University of Cluj-Napoca. It is structured in **five chapters**.

Chapter 1 contains **General information related to the Technical University of Cluj Napoca (TUCN) and the Organizing Institution for Doctoral Studies within UTCN (IOSUD-TUCN)**.

Subchapter 1.1. The institutional capacity of IOSUD-TUCN details aspects related to the history of UTCN and IOSUD-UTCN, the organizational chart of IOSUD-TUCN, the Council for Doctoral Studies, the Doctoral School within IOSUD-TUCN, the assurance of the normative framework and the Mission and vision of UTCN and IOSUD-TUCN. The certification level of IOSUD-TUCN and the Doctoral School and the specific quality management measures are described in *1.1.8. The strategy of IOSUD-UTCN and the TUCN Doctoral School in the field of quality assurance* and *1.1.9. Operation of the internal quality assurance system*. The evolution of the Doctoral School so far, involving admission to doctoral studies, organization of doctoral studies, number of doctoral theses defended until the evaluation date, research activity, infrastructure, human resources, services for doctoral students,

international relations, collaboration with the environment socio-economic are presented in subchapters 1.1.8. - 1.1.15.

Subchapter 1.2. The field of doctoral studies FOOD ENGINEERING contains information related to the new field of doctoral studies in Food Engineering. It is structured as follows: the history of Baia Mare academic education, the merger of the North University of Baia Mare with the Technical University of Cluj Napoca, the objectives of the new IPA doctoral program, the content of the educational process, the teaching staff that will serve the IPA doctoral program, student admission, IPA research activity and material base.

Subchapter 1.3. is dedicated to the **Internal Quality Assurance System at the level of doctoral fields within the IOSUD-TUCN Doctoral School**, focusing on: the objectives and general structure of the internal quality assurance system, the Quality Assurance Policies and the definition of procedures, beneficiaries and their responsibilities, Participation of staff, PhD students and external stakeholders in the quality assurance process, Interaction between the quality assurance system and university management, Transparency and access to information specific to the internal quality assurance system for beneficiaries internal and external, Efficiency of internal quality assurance procedures and structures and their impact on activities in doctoral studies, Use of information produced by the internal quality assurance system as a tool for quality management and improvement of education and other acts and Monitoring, evaluation and continuous development of the internal quality assurance system.

Chapter 2, through sections **A. Institutional Capacity**, **B. Educational Effectiveness** and **C. Quality Management**, details how the **Criteria, Standards and Performance Indicators** are fulfilled by the new doctoral studies in **Food Engineering**, in accordance with Annex 4 of Order 3651 / 12.04.2021.

Chapter 3. includes **Strategies and procedures to be implemented at the level of the Doctoral School within IOSUD-TUCN**, which includes the new field of IPA doctoral studies as measures to continuously improve the quality of doctoral programs, beyond the existing minimum standards.

Chapter 4. contains **Other additional information relevant to the establishment of the new IPA doctoral field (SWOT Analysis)**.

Chapter 5. is represented by the **List of the Annexes**.

It is found that the total number of students admitted for doctoral studies was kept approximately constant throughout the analyzed period. In the research activity, the revenues attracted and collected from various competitions increased significantly. A large number of projects have been won in international competitions, in prestigious partnerships, producing valuable scientific results. There has been a significant increase in the number of citations as well as citing articles, a positive development, which reflects an increase in the prestige of TUCN in the international scientific community. The quality of human resources has increased, 71.88% of university professors being also PhD supervisors. The evolution suggests at the institutional level personal growth, consolidation and performance stability.

Annexes

[Annex 1.1.7. TUCN Chart](#)

1. GENERAL INFORMATION

1.1. INSTITUTIONAL CAPACITY OF IOSUD-TUCN

1.1.1. Short history of the Technical University of Cluj- Napoca

The Technical University of Cluj-Napoca is the continuator of a rich tradition of technical education in the capital of Transylvania and represents, at the same time, a focal point of the future development of the region.

The achievement of the Romanian unitary national state, on December 1, 1918, opened new perspectives for education of all the degrees. On February 1, 1920, the Industrial High School was established, the new school institution then going through a series of reorganizations and becoming, in 1922, the College for Technical PhD supervisors. It was the only school of this level in the country, with an electromechanical profile, a forerunner of the Cluj Polytechnic. Another school with a technical profile created in 1920 was The College for PhD supervisors of Public Works, with the specifics in roads and bridges, a true forerunner of the Faculty of Civil Engineering. The school of technical PhD supervisors, which enjoyed an important prestige in the Romanian industry, was reorganized in 1937 as the School of Electromechanical Sub- Engineers.

Following a memorandum addressed to the Ministry of Education regarding the establishment of a Polytechnic in Cluj with three faculties: Civil Engineering, Electromechanics and Forestry, through the provisions of Law for the education reform of August 1948, the Mechanics Institute of Cluj was created, having a faculty with two sections: Thermotechnics and Working Machines. The increasing need for technical staff meant that, in 1953, the Institute of Mechanics was transformed into the Polytechnic Institute of Cluj.

Starting with 1992, the Polytechnic Institute changed its name to the Technical University of Cluj-Napoca, and out of the three faculties existing at that time, seven faculties were established through restructuring, as well as the Technical, Economic and Administrative University College. In 1998, the structure of the Technical University of Cluj-Napoca was completed with the Faculty of Architecture and Urban Planning, and in 2007, with the Faculty of Installations. In 2012, the Technical University of Cluj-Napoca merged with the Northern University of Baia Mare, which became the North University Center of Baia Mare. Currently, the Technical University of Cluj-Napoca prepares specialists through bachelor's, master's, doctoral and postgraduate studies, the number of students exceeding 20,000. High-performance scientific research is a key concern of TUCN professors and researchers.

The Technical University of Cluj-Napoca has been accepted, since 2003, as a member of the European University Association (EUA) and since 2007 in the Francophonie University Association (AUF). TUCN is also a member of the Alliance of Universities for Democracy, the Black Sea Universities Network, The Silk-Road Universities Network (SUN) and the Danube Rectors' Conference (DRC). Since 2021, the Technical University of Cluj-Napoca has also been accepted as a member of the EUA Council for Doctoral Education (EUA-CDE). Since 2019, TUCN has been a member of the consortium of universities that founded the European University of Technology - EUt+. European universities are transnational alliances that will become the universities of the future, promoting European values and identity and revolutionizing the quality and competitiveness of European higher education. The EUt+ project is taking place between 2020 and 2023. The results obtained in the didactic, research, university management and international cooperation activity were appreciated by the Romanian Agency for Quality Assurance in Higher Education (ARACIS), which, following the Assessments in 2007, 2013, 2018, awarded TUCN the qualification of "High Confidence":

https://www.utcluj.ro/media/documents/2019/certificat_aracis_2019.pdf

The Technical University of Cluj-Napoca presents itself today as a modern higher education institution, being a "University of Advanced Research and Education", among the top twelve universities in the country, according to the Order of the Ministry of National Education no. 5262 of September 5, 2011 on the classification of accredited universities in the national education system. The university participated in the international QS Stars Assessment in 2019, and obtained 4 stars out of five possible, equivalent to an internationally recognized university of excellence. In the EECA regional QS ranking, in 2020, our university is on the 119th place out of 350+ universities. On the main top QS World University Rankings, TUCN appears in the extended ranking 1000+ in the range 1000-1100 for 2021. In the Times ranking, the TUCN Computers domain was ranked in the 600+ class and the Engineering domain in the 800+ class worldwide.

1.1.2. Short history of IOSUD-TUCN

The launch of the concerns and the systematic scientific activity takes place immediately after the organization of the institution as a Polytechnic, in 1953, when the right to lead the training of the doctoral students of professor Alexandru Domșa was granted. The following leaders of doctoral students were the professors: Bazil Popa, Ioan Lăzărescu, Alexandru Negoită, Emeric Szekely. Concern of the management of the Institute for the integration of young professors in the system of post-graduate studies and doctorate, materialized in obtaining the right to lead doctoral students in 5 specialties. At the same time, 4 professors were sent to the USSR for post-graduate studies. The continuous amplification of the system meant that in 1978 there were 20 scientific leaders of doctoral students, ensuring their training in the main technical fields. The result was very conclusive: between 1953-1973, 237 specialists were enrolled in the doctorate, and in the last years of the period, 67 doctoral students defended their doctoral theses. In 1978 the balance was much improved: 81 doctoral degrees obtained in the Institute and 61 outside the Institute.

The first scientific title of doctor was awarded on October 22, 1960 to the engineer Sergiu Scadovschi following the defense of the thesis entitled: *"Contributions to the improvement of technological processes for the elaboration of malleable cast iron by balancing the graphitizing and anti-graphitizing action of some elements in the process of primary crystallization and the kinetics of isothermal transformations in solid state"*, under the scientific coordination of professor Alexandru Domșa.

The next beneficiaries of the same scientific title were the engineers Attila Palfalvi (1963) and Ioan Drăgan (1966) who later became renowned professors and rectors of the Technical University of Cluj-Napoca. Then, in 1966, the engineer Ioan Sonea defended his doctorate, mentioning that they all obtained the same performance under the scientific guidance of Professor Alexandru Domșa. He was also the scientific leader of the future rector and academician Horea Colan (1971).

In 1967 the first doctorate thesis defended at Professor Bazil Popa (Eng. Virgil Focșa), in 1969 at Professor Alexandru Negoită (Eng. Adrian C. Radu), in 1970 at Professor Ioan D. Lăzărescu (Eng. Eugen P. Pay), in 1971 at Professor Mircea Mihailescu (Eng. Eugen I. Beiu), in 1971 at Professor Vasile Ilie (Eng. Ioan Teodor Păstrăv), in 1972 at Professors Igor Terteia (Eng. Traian I. Oneț) and Dezideriu Maroș (Eng. Mihai A. Bogdan), in 1975 at Professor Ioan Drăgan (Eng. George Vermeșan), in 1976 at Professor Andrei Ripianu (Eng. Ioan I. Crăciun), in 1978 at the Professor Vasile Ionuț (Eng. Petru P. Brînzaș) and Emeric Szekely (Eng. Iuliu I. Fejes), and the 100th doctor engineer was Francisc Lammert in 1980, guided by Professor Ioan Drăgan.

Table 1 - The first PhD supervisors of the Polytechnic Institute of Cluj-Napoca

Item No.	Last name and first name	Specialization	Year of appointment
1	Prof.em.eng. Alexandru Domșa	Metal technology and metallography	1953
2	Prof.dr.doc.eng. Ion D. Lăzărescu	Tools and metal cutting	1963
3	Prof.dr.doc.eng. Alexandru Negoită	Civil engineering	1965
4	Prof.dr.doc.eng. Basil Popa	Thermotechnics and thermal machines	1966
5	Prof.Eng. Mircea Mihailescu	Reinforced concrete constructions	1967
6	Prof.dr.eng Ion Drăgan	Hot working	1969
7	Prof.dr.eng Igor Terteia	Reinforced concrete	1969
8	Prof.dr.eng Vasile Ilie	Applied theory of elasticity and plasticity	1970
9	Prof.dr.doc.eng. Dezideriu Maros	The theory of mechanisms	1970
10	Prof.dr.doc.eng. Andrei Ripianu	Technical Mechanics	1970
11	Prof.dr.doc.eng. Emeric Szekely	The theory of mechanisms	1970
12	Prof.dr.eng Andrei Albu	Machine tools	1973
13	Prof.dr.eng Gheorghe Petriceanu	Machine Building Technology	1973
14	Prof.dr.eng Horia Colan	Heat treatments and the study of metals	1977
15	Prof.dr.eng Vasile Ionuț	Construction technology of agricultural machinery	1977
16	Prof.dr.eng Virgil Moldovan	Machine for processing metals by plastic deformations	1977
17	Prof.dr.eng Attila Palfalvi	Metal technology	1977
18	Prof.dr.eng Ferdinand Gobesz	Statics and dynamics of constructions	1977
19	Prof.dr.eng Nicolae Juncan	Metal constructions	1977
20	Prof.dr.eng Arpad Kelemen	Electrical drives	1977

The training and improvement of professors by doctorate took place between 1981-1984 as follows: 47 professors and researchers have completed and defended their doctoral thesis, of whom 40 in the Institute. Therefore, out of the 436 full-time professors in the Institute, 4 are docent doctors and 185 are doctors of science. However, there are 132 professors who are not enrolled in the doctorate, most of them young assistants and supervisors (lecturers), the situation being due to the dangerous decrease in the number of places for doctoral admissions and the growing distance between colloquia.

The general situation in the country and in education is deteriorating sharply, during the period 1985-1989, when the problem of professors becomes really embarrassing, so that in **Reporting**, heavily politicized, the Senate does not even analyze it, this being only sent, impersonally, to the annexes. Here the doctoral training presents a suggestive picture, for the compression and dangerous reduction of this system. Thus, in 1989, 78 specialists were still enrolled in the doctorate, of whom 35 of the Institute (plus 15 from

abroad, together with 28 from abroad), to which were added the 37 professors enrolled in the doctorate at other institutions in the country. Between 1985 and 1989, a number of 32 professors of the Institute defended their doctoral thesis, obtaining the scientific title of Doctor of Science, of whom 22 in the Institute and 10 in other institutions in the country. At the same time, a number of 29 specialists outside the Institute obtained the title of doctor in the Institute. In 1989, there were 202 doctors in the Institute, and no docent doctor was active. The defenses of doctoral theses were made by specialists enrolled in this form, following the admission colloquia from 1974-1980, because the admissions had almost stopped in 1985-1989. As a result, the scientific leaders, as many as there were, no longer had enrolled doctoral students, as most of them defended their theses, and some, lacking the necessary stimulation - as the competitions for jobs stopped - stopped their training and were expelled.

From the point of view of the organizational structure, starting with 2005 the doctoral studies in the Technical University of Cluj-Napoca have been organized in the Bologna system (cycle III of studies).

Through the **University Senate Decision no. 323 of November 7, 2014**, is established within TUCN **10 doctoral schools**: Automation and Computers, Electrical Engineering, Electronics, Telecommunications and Information Technology, Mechanical and Mechatronics Engineering, Industrial Engineering and Management, Materials and Environmental Engineering, Constructions and Installations, Architecture and Urban Planning, Applied Sciences and Humanities.

https://www.utcluj.ro/media/decisions/2014/11/13/H.Senat_nr._323_liste_scoli_doctorale.pdf

On December 5, 2017, the TUCN Board of Directors decides the **reorganization of the 10 doctoral schools into a single Doctoral School**, this decision being approved by the University Senate by **Decision 856 of December 15, 2017**. The old doctoral schools are being reorganized into Councils for the coordination of doctoral programs.

https://www.utcluj.ro/media/decisions/2017/12/21/H._Senat_nr._856_reorganizare_scoli_doctorale.pdf
<http://iosud.utcluj.ro/scoli-doctorale-146.html>

By **Order 5500 / 27.10.2021**, published in Part I of the Official Gazette no. 1067 / 8.11.2021, it was approved to maintain the accreditation in order to organize doctoral university study programs for UTCN as the Organizing Institution of Doctoral University Studies (IOSUD-UTCN) and for the 14 fields of doctoral university studies in the Doctoral School within UTCN.

<https://legislatie.just.ro/Public/FormaPrintabila/00000G243UDLGA00KD61R4DR4RU7MB90>

The evolution of the number of doctors of the Technical University of Cluj-Napoca from 1960 up to present is shown in figure 1 and figure 2, respectively.

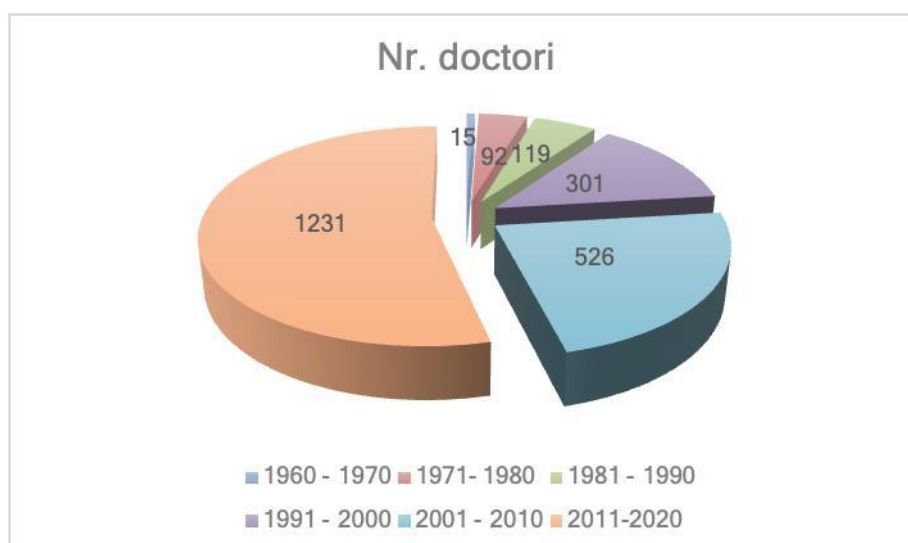


Figure 1 - The evolution of the number of doctors per decade

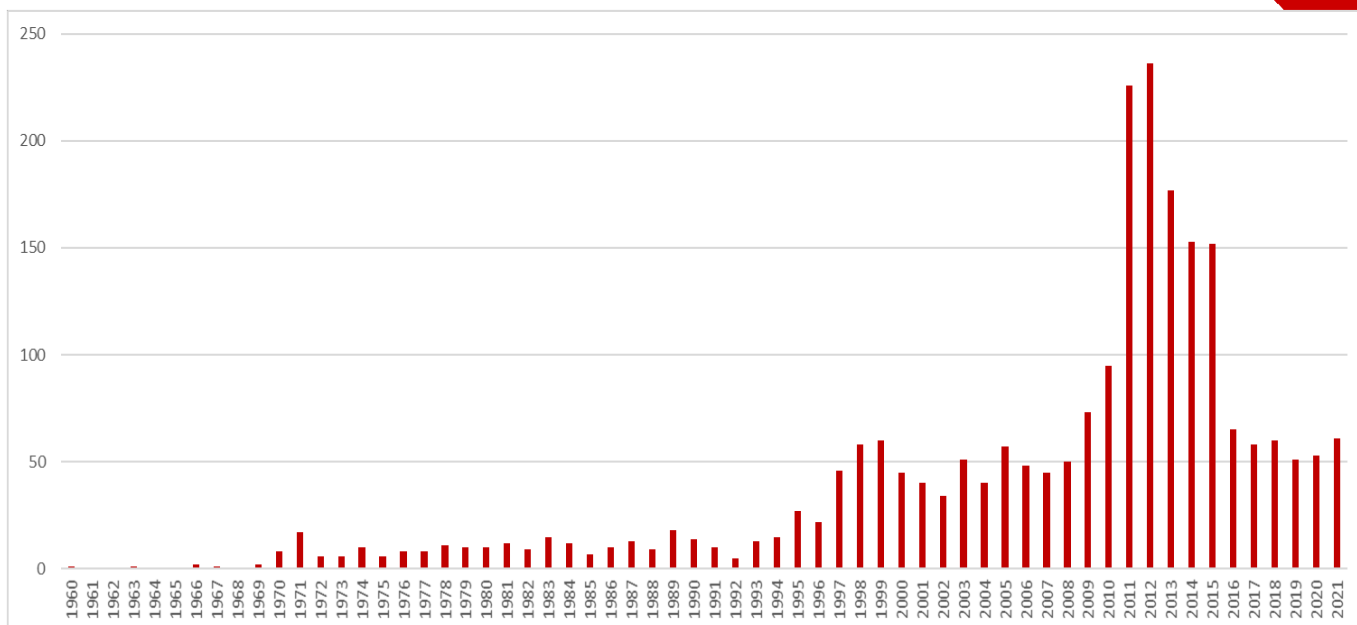


Figure 2 - The evolution of the number of doctors of the Technical University of Cluj-Napoca in the period 1960-2021

It is found that the number of doctors between 2011-2015 is higher due to the multiple POSDRU programs that the university has accessed during this period (PRODOC, SIDOC, QDOC, PARTING).

Annexes

[Annex 1.1.2. H.Senate no. 323 lists doctoral schools](#)

[Annex 1.1.2. H. Senate no. 856 reorganization doctoral schools](#)

1.1.3. IOSUD-TUCN Organization Chart

In accordance with the **National Education Law (Law 1/2011)**, with subsequent amendments and completions, **Code of doctoral studies** (GD 681/2011)), with subsequent amendments and completions and with **Institutional Regulation on the organization and development of doctoral studies and postdoctoral programs for advanced research at the Technical University of Cluj-Napoca** ([Annex 1.1.3. Institutional Regulation HSU 123524.09.2020](#)), starting with 05.12.2017 IOSUD-TUCN was organized according to the organizational chart shown in figure 3.

The activity within the university doctoral studies at the university is administered by the Council for doctoral studies (CSUD), which is headed by the director of CSUD. The position of director of CSUD is assimilated with that of vice-rector, in accordance with the legal provisions, and the person occupying it receives by right the responsibility and authority related to the mentioned position. The basic organizational unit in IOSUD-TUCN is the doctoral school.

https://www.edu.ro/sites/default/files/legea-educatiei_actualizata%20august%202018.pdf

<https://legislatie.just.ro/Public/DetaliuDocumentAfis/130547>

http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Senat_24.09.2020.pdf

https://www.utcluj.ro/media/decisions/2020/10/02/H._Senat_nr._1237_Actualizare_Regulament_abilitare.pdf

*** DOCTORAL PROGRAM COORDINATION COUNCILS:**

1. Coordinating Council of the doctoral programs Architecture and Urban Planning (Architecture field)
2. Coordinating Council of the doctoral programs Automation and Computers (fields of Systems Engineering and Computers and information technology)
3. Coordinating Council of doctoral programs in Constructions and installations (field of Civil engineering and installations)
4. Coordinating Council of doctoral programs in Electronics, Telecommunications and Information Technology (field of Electronic Engineering, Telecommunications and Information Technology)
5. Coordinating Council of doctoral programs in Materials and Environmental Engineering (Materials Engineering and Environmental Engineering fields)
6. Coordinating Council of doctoral programs in Electrical Engineering (field of Electrical Engineering)
7. Coordinating Council of doctoral programs in Industrial Engineering and Management (fields of Industrial Engineering and Engineering and Management)
8. Coordinating Council of doctoral programs in Mechanical Engineering and Mechatronics (field of Mechanical Engineering)
9. Coordinating Council of doctoral programs in Applied Sciences (field of Mathematics)
10. Coordinating Council of doctoral programs in Humanities (fields of Philology and Philosophy)

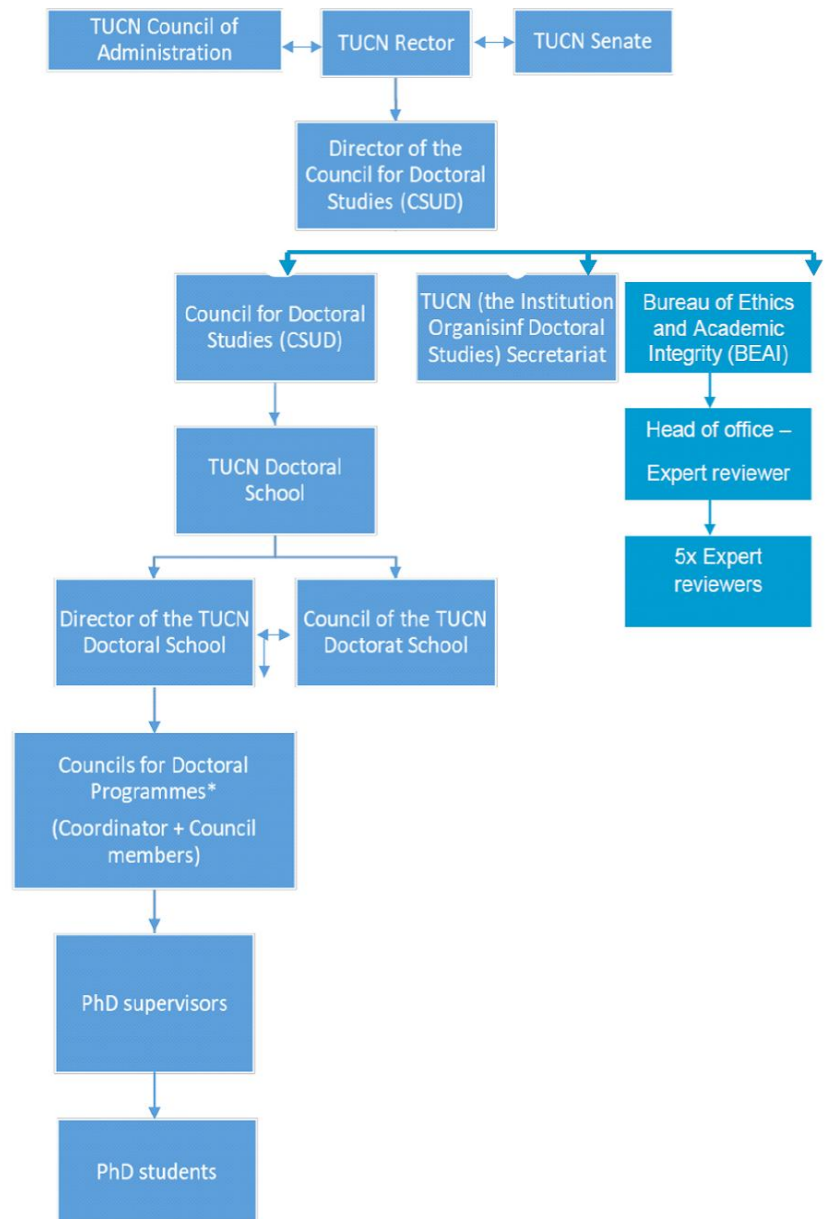


Figure 3 - IOSUD-TUCN organization chart

1.1.4. Council for Doctoral Studies (CSUD)

The activity within the doctoral studies from IOSUD-TUCN is performed by the Council for Doctoral Studies (CSUD), which is headed by its director, a full member of CSUD. The CSUD currently consists of a maximum of 17 members, as follows:

- a) the CSUD director, appointed by competition;
- b) 1 member elected directly by universal, direct, secret and equal vote of the doctoral supervisors from IOSUD-TUCN;
- c) 3 doctoral students representing different scientific profiles, chosen by universal, direct, secret and equal vote of the doctoral students of IOSUD-TUCN, one place for the profiles: construction, mechanics and electrical;
- d) 12 members of IOSUD-TUCN or outside it appointed by the rector of TUCN (scientific personalities whose activity has a significant international recognition and/or personalities from the relevant industrial and socio-economic sectors).

The main attributions of CSUD are:

- a) establishing the IOSUD-TUCN strategy;
- b) developing and updating IR;
- c) coordination of the doctoral school within IOSUD-TUCN;
- d) approving the decisions regarding the establishment and dissolution of the doctoral schools from IOSUD-TUCN;
- e) selection of doctoral supervisors who are part of the doctoral school;
- f) coordination of partnerships established in accordance with the legal regulations mentioned in Art. 8 para. 1 of the Regulation of Doctoral University Studies, according to the relevant partnership agreements;
- g) endorsement of the specific provisions of the doctoral school;
- h) initiating and approving projects for accessing national and European funds for doctoral and postdoctoral university study programs and following, together with the project heads, the process of their implementation;
- i) other specific attributions, established by RI, according to law.

The CSUD head is appointed following a public competition organized by TUCN, based on the decision of the competition commission, endorsed by the University Senate. The rector of the university concludes with the designated person a management agreement for a period of 4 years.

1.1.5. IOSUD-TUCN doctoral school

In TUCN, the doctoral university studies are carried out in the Doctoral School of the Technical University of Cluj-Napoca, which is constituted in accordance with the legal regulations in force.

The doctoral school is a structure within IOSUD-TUCN consisting of doctoral supervisors (professors/researchers) and doctoral students, which is focused on scientific research and learning through research and whose activity is completed by doctoral theses, scientific publications, innovations, patents and other results of scientific research. The scientific research activity within the doctoral school is integrated in the scientific research activity from the existing scientific research structures in TUCN.

The doctoral supervisors in the fields of Architecture, Computers and information technology, Civil engineering and installations, Electrical engineering, Electronic engineering, telecommunications and information technologies, Industrial engineering, Engineering and management, Materials engineering,

Mechanical engineering, Environmental engineering, Systems Engineering, Philology, Philosophy and Mathematics carry out their activity in the doctoral school TUCN, providing the logistical support necessary for the development of doctoral programs.

The doctoral school is run by the director of the doctoral school and the Doctoral school council.

The director of the doctoral school is assimilated to the director of the department. **The doctoral school council** is assimilated to the Departmental council.

The director of the doctoral school is appointed based on the methodology of organizing the elections and appointing the management of the doctoral school, approved by the University Senate.

The structure and number of members of the Doctoral School Council of IOSUD-TUCN are established by CSUD in accordance with the legal regulations in force. The director of the doctoral school is a full member of the Doctoral School Council.

The doctoral school council has the following attributions:

- a) elaborates the specific regulations of the doctoral school;
- b) proposes the granting or revocation of the quality of doctoral supervisor in the doctoral school;
- c) proposes minimum standards of scientific performance for the affiliation of doctoral supervisors to the doctoral school, as well as the affiliation procedure;
- d) proposes standards and approves the affiliation and termination of affiliation to the doctoral school of professors or researchers who do not have the quality of doctoral supervisor and who carry out teaching or research activities in the relevant school, including as members of the guidance commissions;
- e) decides the enrollment and expulsion of doctoral students, at the proposal of the doctoral supervisors, members of the doctoral school;
- f) decides the reallocation of the management of a doctorate in progress to another doctoral supervisor under the conditions provided by law;
- g) mediates conflicts between doctoral students and doctoral supervisors;
- h) approves the commissions for analysis and public defense of doctoral theses;
- i) draws up and proposes the content of the doctoral study programs approved by CSUD;
- j) establishes the regime of intellectual property rights for the doctoral thesis;
- k) adopts the necessary measures to ensure the quality of doctoral studies, for the proper conduct of periodic evaluations of the doctoral school and doctoral supervisors, for compliance with ethics and deontology and for the external evaluation process for accreditation/re-accreditation or provisional authorization of the doctoral school;
- l) exercises other specific attributions established by Law, Code, Charter, Institutional Regulation or other normative deeds.

At the level of doctoral fields, the doctoral university studies are organized in the Coordination Councils of the doctoral programs. They are subordinated to the TUCN Doctoral School and their establishment is approved at the proposal of the CSUD and the Doctoral School by the Board of Directors (CA) of TUCN and the Senate of TUCN.

The coordination councils of the doctoral programs are organized on doctoral fields, at the level of the faculty/faculties, which supervises the relevant doctoral fields. The doctoral research activity is integrated in the didactic and research activity of the faculty/faculties, with the consequence of the assumption by him/them of the responsibility, authority and allocation of the necessary resources.

In the TUCN doctoral school, doctoral programs can be organized in collaboration or separately within each field tutoring faculty. Each faculty assumes responsibility for its contribution and reports the performance of doctoral supervisors, doctoral students and the resources it makes available to them.

The Coordinating Council for Doctoral Programs is chaired by a coordinator and board members. The structure and number of members of the Coordinating Council is established by the CSUD. The attributions of the coordination boards are specified in the **Regulation of the TUCN Doctoral School (Annex 1.1.5. Regulation TUCN Doctoral School- art. 8, alin 2)**.
https://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CSU_D_23.01.19.pdf

The 10 coordinating councils of the doctoral programs subordinated to the TUCN Doctoral School are:

1. Coordinating Council of the doctoral programs Architecture and Urban Planning (Architecture field);
2. Coordinating Council of the doctoral programs Automation and Computers (fields of Systems Engineering and Computers and information technology);
3. Doctoral Programs Coordination Council in Constructions and installations (field of Civil engineering and installations);
4. Doctoral Coordinating Council for Electronics, Telecommunications and Information Technology (Electronic Engineering, Telecommunications and Information Technology);
5. Coordinating Council for doctoral programs Materials and Environmental Engineering (Materials Engineering and Environmental Engineering fields);
6. Doctoral Program Coordination Council of Electrical Engineering (field of Electrical Engineering);
7. Coordinating Council of doctoral programs in Industrial Engineering and Management (fields of Industrial Engineering and Engineering and Management);
8. Coordinating Council of doctoral programs in Mechanical Engineering and Mechatronics (field of Mechanical Engineering);
9. Coordinating Council of doctoral programs in Applied Sciences (field of Mathematics);
10. Coordinating Council of doctoral programs in Humanities (fields of Philology and Philosophy).

Bureau of Ethics and Academic Integrity (BEIA)

The Bureau of Ethics and Academic Integrity (BEIA) was established within IOSUD-UTCN by Senate Decision no. 1407/28.10.2021 ([Annex 1.1.5. H. Senate nr. 1407 Establish BEIA](#)), in accordance with the provisions of the **Order of the Ministry of Education no. 5255 /10.09.2021** regarding the verification of university ethics and deontology in the elaboration of doctoral theses from 1990-2016. The bureau is subordinate to CSUD and has responsibilities for digitizing and verifying all doctoral theses, as well as training trainers in ethics and integrity, responsibilities that include the operation of anti-plagiarism software. In support of the activity of verifying doctoral theses from 1990-2016, the **Procedure for verifying the observance of university ethics and deontology in the elaboration of doctoral theses (period 1990-2016) within IOSUD - TUCN** was developed ([Annex 1.1.5. Thesis verification procedure CA 19 .10.2021](#)) and the **Strategy for preventing and combating the phenomenon of plagiarism in the Technical University of Cluj-Napoca** ([Annex A.1.1.1. Strategy TUCN plagiarism- CA](#)). The process of scanning and digitizing doctoral theses started in November 2021.

https://www.utcluj.ro/media/decisions/2021/10/29/H._Senat_nr._1407_Infiintare_Birou_BEIA_.pdf
<https://iosud.utcluj.ro/files/Files/EN-Files/Legislatie/Strategia.UTCN.plagiat%20-%20CA.pdf>
https://iosud.utcluj.ro/files/Files/Legislatie%202021/Procedura%20verificare%20teze_CA_19.10.2021.pdf

1.1.6. Ensuring the normative framework

In the period 2017-2021 IOSUD-TUCN undertook a series of actions to align the doctoral studies in TUCN with the rigors and requirements of the National Education Law with subsequent amendments (Law 1/2011) and of the Code of doctoral studies (GD No. 681 of June 29, 2011). Among the measures taken, special attention was paid to the compatibility of regulations and methodologies of IOSUD-TUCN with the provisions of Law on National Education and the Code of doctoral studies. The list of normative deeds elaborated in the period 2016-2020 is presented in [Annex 1.1.6. Approved regulations methodologies decisions.](#)

Institutional Regulation for the organization and development of doctoral studies and postdoctoral programs for advanced research at the Technical University of Cluj-Napoca,

1235/24.09.2020, (RI) is the fundamental normative deed for the organization and development of doctoral studies in IOSUD-TUCN. In addition to the provisions of Law 1/2011 and GD No. 681/29.06.2011, the regulation provides for a series of specific measures regarding the organization of IOSUD-TUCN, the Training Program based on advanced university studies (PPUA) and research, doctoral programs, etc. ([Annex 1.1.3. Institutional Regulation HSU 123524.09.2020](#)). http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Sen_at_24.09.2020.pdf

Along with RI, another important regulation is the **Regulation of the Doctoral School of the Technical University of Cluj-Napoca within IOSUD-TUCN** - approved by CSUD and the Board of Directors on 23.01.2019. It regulates the specific conditions for the organization and development of doctoral studies at the level of the TUCN Doctoral School, as well as the process of obtaining the certificate of authorization in IOSUD-TUCN. The authorization process is detailed in the TUCN Regulation regarding the obtaining of the authorization and affiliation certificate at a Doctoral School from IOSUD-TUCN, approved by the Decision of the University Senate no. 1237 of 24.09.2020. In addition to these regulations, a series of methodologies, procedures and decisions of the Board of Directors for the regulation of various aspects of the IOSUD-TUCN activity were developed, including measures to promote professional ethics and deontology implemented at the level of the Doctoral School and the fields ([Annex 1.1.5. Regulation TUCN Doctoral School](#)). http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

The regulations, methodologies, procedures and decisions in extenso from the period 2016-2021 are presented on the IOSUD-TUCN website at the addresses:

<http://iosud.utcluj.ro/regulamente.html>

<http://iosud.utcluj.ro/hotarari-si-decizii-utcn.html>

Annexes:

[Annex 1.1.3. Institutional Regulation HSU 123524.09.2020](#)

[Annex 1.1.3. H. Senate nr. 1237 Aupdate Rules habilitation](#)

[Annex 1.1.2. H. Senate no. 856 reorganization doctoral schools](#)

[Annex 1.1.5. Regulation TUCN Doctoral School](#)

[Annex 1.1.5. H. Senate nr. 1407 Establish BEIA](#)

[Annex A.1.1.1. Strategy TUCN plagiarism- CA](#)

[Annex 1.1.5. Thesis verification procedure CA 19.10.2021](#)

[Annex 1.1.6. Approved regulations methodologies decisions.](#)

1.1.7. Mission and vision of IOSUD-TUCN/TUCN Doctoral School

The **Chart of the Technical University of Cluj-Napoca** ([Annex 1.1.7. TUCN Chart](#)) states as a mission: "the development of value in people, processes and products, aiming in this sense to achieve at a high level of quality of education and advanced scientific research, in specific fields, in national and international context, responding to the needs of intellectual, professional and social development of the individual and the progress of Romanian society". The mission of the university is a synthetic expression of the framework in which the university understands to assume its role as a generator and disseminator of knowledge in the local, regional, national and international community. In this context, our institution understands that, in a knowledge-based society, the university becomes a factor of economic growth at the community level and a welfare agent for each individual who benefits from its services.

https://www.utcluj.ro/media/documents/2021/Carta_UTCN_reveCZR.pdf

The mission assumed by the academic community of IOSUD-TUCN is to provide the environment for conducting doctoral studies, to enable the development of knowledge in the doctoral fields of IOSUD-TUCN and to provide it to the socio-economic environment, the transfer of research and innovation through specific services all aimed at generating added value to contribute to economic growth and the well-being of the individual and society.

TUCN vision strongly guides the university towards an approach that combines the concern for excellence with the assumption of responsibility both by members of the academic community and by its leaders for their contribution to the progress of the institution. It suggests at the process-level personal growth, consolidation and performance stability.

The components of this vision are the ones on which the development steps of the institution will be coagulated and where the answers to the challenges that will appear during this period will be sought. These comprise:

- academic excellence rewarded by national and international recognition;
- contribution to the social and economic well-being of the region;
- entrepreneurial behavior doubled by responsibility in resource management;
- powerful university community through the values that promote them, motivated for performance and responsible for its own performance.
- institutional environment combining attractiveness and responsibility for university students and ensuring equal opportunities in their access to opportunities.

IOSUD-TUCN vision proposed for the time horizon 2024 is an Institution that is built around the following major ideas:

- education correlated with the needs of the socio-economic environment;
- interdisciplinary research related to Horizon 2020 strategies;
- internationalization and progress-oriented institutional development.

The essential values on which the proposed vision and mission are based consist of: professionalism, decisional transparency, superior quality, individual and collective responsibility, equal opportunities and academic freedom, values that must be defining for the entire academic community of the TUCN Doctoral School.

These values are built around guiding principles: integrity, objectivity, consistency, perseverance, openness to PhD students and PhD supervisors, the demands of the socio-economic environment, the promotion of values and the encouragement of open opinion.

We must be aware that we are a strong community, which can become valuable only through communication and teamwork, managing to make the Technical University of Cluj-Napoca a successful model of Romanian higher education.

The symbiosis between research and education, achieved in a viable institutional framework, is the key to progress, in which research must be the fruit of passion, stubbornness, rejection of failure and continuous evolution and education, an integration of us, as trainers of new generations in a process of continuous education that adheres to the new challenges imposed by society.

Annexes:

[Annex 1.1.7. TUCN Chart](#)

1.1.8. Strategy of IOSUD-TUCN and the TUCN Doctoral School in the field of quality assurance

The strategy of IOSUD-TUCN and the TUCN Doctoral School in the field of quality assurance is an integral part of the overall strategy of the Technical University of Cluj-Napoca, having the following dimensions of the TUCN mission (according to the **Strategic Plan 2020-2024** – [Annex 1.1.8. Strategic Plan TUCN 2020 2024](#)):

- [re](#)modeling and adapting the educational offer, scientific research, innovation and artistic creation to the needs and expectations of society;
 - cultivating the values, skills and abilities needed for full integration into the European space of excellence in education, artistic creation, research and innovation;
 - digitization of educational and administrative processes in order to increase the quality and institutional performance;
 - amplifying the international dimension to ensure access to the category of world-class universities, according to the criteria of QS STARS RATING SYSTEM, or other relevant rankings.
- https://www.utcluj.ro/media/decisions/2020/10/26/Plan_Strategic_UTCN.pdf

IOSUD-TUCN mission is to provide the necessary institutional framework for the interconnection of performance-oriented human resources, infrastructure and institutional culture in order to develop advanced research skills usable by the socio-economic environment and deliver concrete results in the field of scientific, humanistic and artistic production, which enjoys national and international recognition.

IOSUD-TUCN vision is to contribute to strengthening the role of doctoral research as a fundamental component of the university based on advanced research, which facilitates the process of transforming young graduates into prospective researchers by implementing the concept of "learning by doing" under the guidance of experienced and recognized leaders.

The quality assurance strategy is based on a combination of management principles promoted by the ISO 9001 family of standards and the guidelines contained in the methodological guidelines developed by ARACIS on the quality of doctoral studies:

- **Focusing on beneficiaries:** IOSUD-TUCN pilots and monitors the development of doctoral university study programs in order to create added value in the socio-economic environment, through trained specialists (graduates of doctoral studies) who become contributors to regional, national or international development, as well as results research (publications, products, technologies, etc.) that contributes to obtaining specific benefits in the public or private sector.

- **Legal and normative framework:** The monitoring and application without exceptions of the legal provisions in force, of the ARACIS normative deeds and of the good practices in the management of research, development and innovation contribute to the development of doctoral studies in conditions of legality, predictability and responsibility.

- **Leadership and initiative:** Within IOSUD-TUCN, it is encouraged to propose and undertake development projects that contribute to increasing the quality of doctoral studies and results in research and innovation. PhD students and PhD supervisors benefit from the academic and administrative support of the TUCN Doctoral School and are supported in proposing and carrying out research and development of products, technologies or artistic and humanistic contributions.

- **Process orientation:** The quality management system within TUCN is designed in accordance with the ISO 9001 specific process orientation. The documented regulations within the institution contribute to the control, monitoring, analysis and improvement of quality critical processes.

- **Staff involvement:** The entire TUCN staff with attributions in carrying out doctoral studies, on a scientific, strategic and administrative dimension, is trained, supported and motivated to contribute to the quality of the doctoral approach through competence, proactive and problem-solving attitude, respectively by awareness of the role of this type of studies within the long-term strategy of the university.

- **Providing human and material resources:** Doctoral university studies are supported centrally by the appropriate allocation of human resources (doctoral supervisors, doctoral school staff) and materials (infrastructure, utilities) and by access to centralized university services (dormitories, canteens, sports facilities, etc.). Also, the activity of doctoral supervisors in attracting resources specific to research topics is supported by submitting investment or research projects, necessary for the successful completion of doctoral study programs.

- **Continuous improvement:** IOSUD-TUCN considers continuous improvement as a main priority and is dedicated to implementing this concept by increasing scientific complexity and applicability in the socio-economic environment, digitization and administrative simplification and supporting long-term investment plans of the Technical University of Cluj-Napoca.

- **Visibility and internationalization:** One of the main desiderata pursued through doctoral programs is to increase the compatibility and connectivity of the research carried out within the Technical University of Cluj-Napoca with the international research environment. For these, doctoral mobility and academic exchange programs, co-supervised doctoral research, participation in prestigious international scientific events and the publication of scientific articles in well-rated international journals, as well as patenting activities at European level are encouraged and transnational technology and knowledge transfer.

- **Transparency, traceability and effectiveness:** The doctoral studies within IOSUD-TUCN are based on the principles of responsibility towards society and observance of academic ethics. Consequently, classical and digital mechanisms for complying with university ethics, stimulating creativity, ensuring originality and dissemination to all stakeholders are implemented at the level of the Doctoral School.

The mission and vision established in general by the Technical University are implemented at the level of the TUCN Doctoral School and of the 14 doctoral university study fields. The basic mission of IOSUD-TUCN Doctoral School is to organize and develop the activity of doctoral education and in-depth scientific research in accredited doctoral fields, at national and international standards, in the context of interaction with the economic, social and academic environment at local, national or international level. Each field can assume additional objectives, depending on its specificity.

The educational management of the doctoral university studies which is promoted by TUCN Doctoral School has as main purpose the analysis, coordination and supervision of the effectiveness of the

educational process taking place in university in order to ensure a general normative framework and to implement it at all levels. The process to ensure the quality of doctoral studies is based on the evaluation of the educational offer according to the two types of competencies, focused on research-based learning, established in accordance with the principles of European Qualifications Framework and National Qualifications Framework for Romania Higher Education

Annexes

[Annex 1.1.8. Strategic Plan TUCN 2020 2024](#)

1.1.9. Operation of the internal quality assurance system

The architecture of the quality assurance system for doctoral studies involves the following main stakeholders and areas of expertise:

- **Council for doctoral studies**, responsible for strategic and decision-making processes in accordance with IOSUD-TUCN strategic plans;
- **TUCN doctoral school**, responsible for the management and administrative processes necessary for the successful initiation, development and completion of doctoral studies;
- **PhD supervisors**, responsible for the main processes of guiding doctoral students and doctoral scientific research, including good investigative practices, research methodologies, dissemination of results and academic ethics;
- **PhD students**, responsible for accomplishing the contractual obligations and for implementing the Advanced University Studies Training Program (PPUA) and the PCS Individual Scientific Research Program, with a view to the transfer of skills and research results to the socio-economic environment;
- **Related structures within TUCN** (Vice-Rectorate for Scientific Research and IT Infrastructure, Vice-Rectorate for International Relations, Department for the Management of Research, Development and Innovation (DMCDI), International Relation Office (BRI), faculties, Coordination councils of doctoral programs, Administrative Services etc.), responsible for the support processes required to the carrying out of PhD students in good conditions, from the academic, logistic and social perspective.

For each of these actors, a framework for operation and performance is defined in accordance with the legislation and regulations in force and with the IOSUD-TUCN strategy on quality assurance. The primary regulations, which refer to direct activities carried out by IOSUD and the Doctoral School, are permanently available to doctoral students and the interested public on the IOSUD-TUCN website (<http://iosud.utcluj.ro>), and the direct regulations related to the activity within each doctoral study agreement are established/agreed by each doctoral supervisor. The administrative and support functions dedicated to doctoral students are available through the specialized structures of the Technical University of Cluj-Napoca. The doctoral school has a specialized Secretariat that facilitates the development of doctoral study programs for both doctoral students and doctoral supervisors.

<http://iosud.utcluj.ro>

The main mechanisms implemented for ensuring, evaluating and improving the quality of doctoral studies within IOSUD-TUCN are mentioned below:

- **Internal and external assessment:** Assuring, controlling and improving the quality of doctoral studies is achieved by implementing internal and external evaluation activities on the scientific, strategic and administrative dimensions. The internal evaluation of the scientific activity is annually achieved by the SIMAC system used for evaluation by all academic staff. PhD supervisors and PhD students have accounts in this system, and the reported results are audited internally through DMCDI. External scientific evaluation is carried out at the level of project proposals and publications, by the authorities responsible for these competitions or events. From a strategic and administrative point of view, the

activity of the Doctoral School as well as the decision-making needs are discussed in the CSUD, the Bureau of the Board of Directors (BCA), the Board of Directors (CA) and the University Senate. Externally, these areas are subject to evaluation according to the legislation, namely through public reports of the CSUD director, respectively through the new accreditation process of doctoral schools. The research activities carried out through the doctoral study programs and the related managerial ones are also the object of internal or external audit missions (Court of Accounts, Ministry of National Education).

- **Corrective and preventive actions:** At the IOSUD-TUCN level, the communication, analysis and decision-making processes necessary for a complete three-phase improvement mechanism are implemented: corrections introduced in time to reduce or eliminate the effects of problems, corrective actions taken based on a detailed analysis to eliminate the causes of deficiencies reported internally (doctoral supervisors, doctoral students) or externally (CNATDCU) as well as preventive actions and systemic improvements included in the strategic plans at institutional or doctoral school level meant to increase the quality of long-term doctoral studies.

- **Risk management:** At the CSUD level and in the doctoral fields, regular meetings take place in which the main risks identified by the doctoral supervisors and by the doctoral students regarding the good development of the studies are analyzed. Scientific, legal, economic and social aspects are taken into account, including the operation of the research infrastructure and the provision of appropriate study conditions, for which appropriate mitigation or elimination measures are proposed.

- **Benchmarking:** This mechanism for comparing performances with similar actors from the country or abroad is implemented both at the level of IOSUD-TUCN through the contribution of CSUD members, and at the level of doctoral studies. Both the scientific component and the administration of doctoral studies are targeted, and good practices and successful solutions in the field are analyzed for adequacy to the situation in TUCN. Periodically, there are meetings and discussions with counterparts (Doctoral School management, PhD supervisors, PhD students) that contribute to the development of mechanisms to stimulate excellence.

- **Lifelong learning:** Doctoral studies are a basic element of the strategy of Technical University of Cluj-Napoca regarding the training of high level specialists capable and interested in continuing their professional development during their career. The role of researchers in both the public and private sectors is to contribute to the advancement of knowledge and its transformation into products and technologies useful to society, and the foundations of this mental and behavioral construction are laid during doctoral studies by developing creativity, subject and meticulousness, as well as research skills at the level of doctoral students.

- **The role of peer review:** Success in research is strictly related to critical thinking and the ability to continuously improve the work already done. This mechanism is implemented in the fields of doctoral studies within IOSUD-TUCN by conducting large-scale peer review activities within research teams, by supporting research reports and by feedback mechanisms from the steering committee, through continuous monitoring by doctoral supervisors, through strategic performance-oriented approaches at the level of the Doctoral School, as well as externally, through the evaluation of project proposals and publications by specialists from the country and abroad.

PDCA (Plan-Do-Check-Act) cycle: The quality assurance function at IOSUD-TUCN level is structured on the four fundamental steps of the PDCA (Plan-Achieve-Verify-Improve) improvement cycle. Approaches, actions and projects are discussed in a broad and transparent framework, put into practice with the help of the human and material resources of the university, and then the results are measured and critically analyzed to determine the necessary corrections and opportunities for improvement. These steps are performed at all relevant levels, from the doctoral training program of each doctoral student, to the level of research teams, to that of doctoral fields and, finally, to the level of IOSUD.

1.1.10. The evolution of the Doctoral School so far

1.1.10.1. Didactic activity

Admission to doctoral studies

In IOSUD-TUCN the admission to doctoral studies is carried out in the TUCN Doctoral School in accordance with the Regulation for admission to doctoral studies at the Technical University of Cluj-Napoca approved by the TUCN Senate and within the limits of doctoral grants allocated by the Ministry of Education to the Technical University of Cluj-Napoca. The distribution of grants to doctoral fields takes into account the performance criteria of doctoral supervisors in the doctoral school.

https://iosud.utcluj.ro/files/Admitere%202022/Regulamentul_de_admitere_la_doctorat_2022.pdf

Regardless of the field, the doctoral admission competition consists of at least two tests:

- an interview in which the level of training and the scientific/professional concerns of the candidate, his research skills and the proposed topic for the doctoral thesis are analyzed;
- an examination of language proficiency for an international language taken in Department of Modern Languages and Communication of TUCN.

In order to ensure a transparent process of enrollment and selection of doctoral students, all information on admission is posted on the IOSUD-TUCN website <http://iosud.utcluj.ro/admitere.html>

The situation of students admitted in the period 2017-2021 is presented in figure 4.

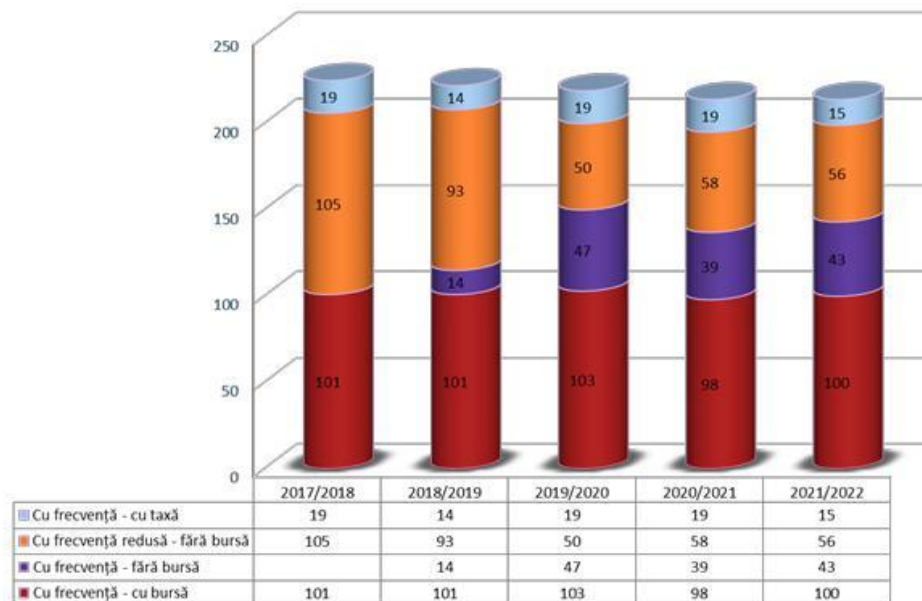


Figure 4 - Categories of doctoral students admitted to TUCN during the evaluated period.

Legend: Cu frecvență - cu taxa = full time - on fee

Cu frecvență redusă - fără bursă = part-time - no scholarship

Cu frecvență - fără bursă = full time - no scholarship

Cu frecvență - cu bursă = full time - on scholarship

The distribution of the admitted students on the 14 doctoral university fields of IOSUD-TUCN is presented in figure 5.

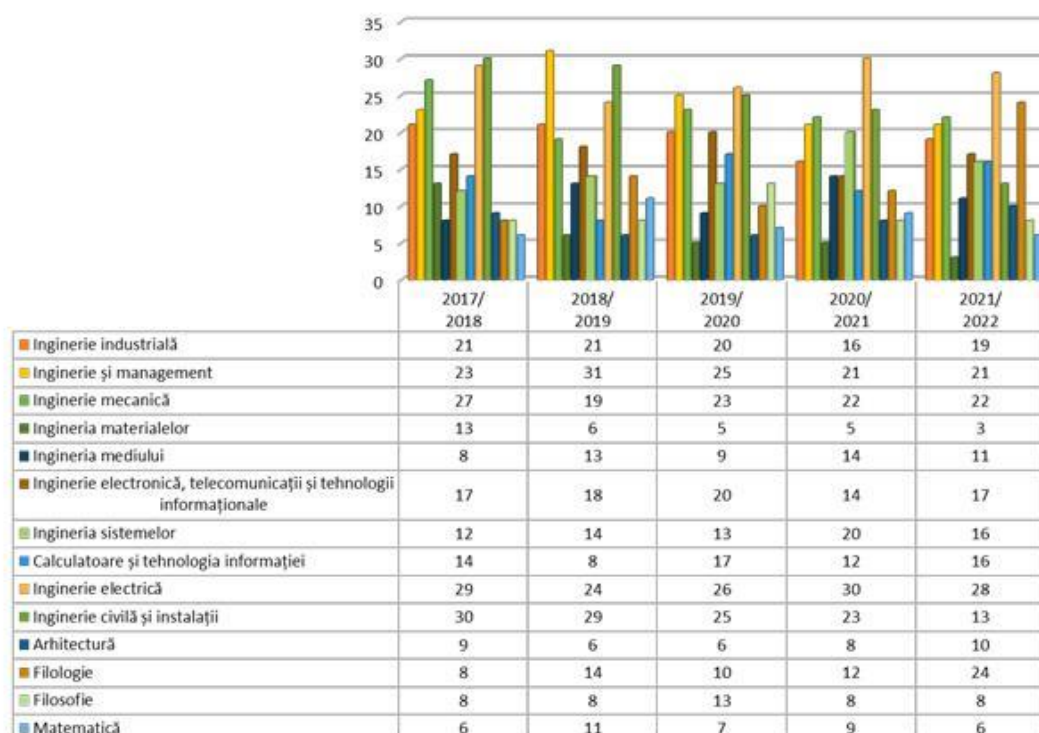


Figure 5 - Distribution of students admitted on IOSUD-TUCN domains during the evaluated period.

Legend: Inginerie industrială= industrial engineering ; Inginerie si management = Engineering and Management; Inginerie mecanica = Mechanical Engineering; Ingineria materialelor = materials engineering; Ingineria mediului = Environmental engineering; Inginerie electronica, telecomunicatii si tehnologii informatonale = Electronic engineering, telecommunications and information technologies; Ingineria sistemelor = Systems Engineering; Calculatoare si tehnologia informatiei = Computers and information technology; Inginerie electrica = Electrical Engineering; Inginerie civila si instalatii = Civil engineering and installations; Arhitectura =Architecture; Filologie = Philology; Filosofie = Philosophy; Matematica = Mathematics

Doctoral studies

The duration of the doctoral program is usually 3 years. For good reasons, the duration of the doctoral program can be extended by 1-2 years, with the approval of the University Senate, at the proposal of the doctoral supervisor. The cycle of doctoral studies has two compulsory components:

- Training program based on advanced university studies (PPUA), within the doctoral school;
- Individual Scientific Research Program (PCS).

Within the training program based on advanced university studies, the doctoral student participates in the first year of doctoral studies in the activities within 3-4 subjects of doctoral studies. These subjects are chosen in such a way that they are all offered in the first year of the doctoral internship, and the cumulative duration of the training program based on advanced university studies cannot exceed 3 months. The subjects in the training program based on advanced university studies of a doctoral student are agreed and proposed by the doctoral supervisor together with the doctoral student and approved by the Coordinating Council of the doctoral program, the TUCN Doctoral School Council and the CSUD Director.

In the first 6 months from the signing of the study agreement, the doctoral student must present the Scientific Research Project in order to elaborate the doctoral thesis. The theme of the scientific research project is established by the doctoral supervisor together with the doctoral student and correlates with the advanced university training program, the programs and the institutional policies of the university.

The research project must contain the general objective and the specific objectives of the doctoral thesis, the research methodology, the risk assessment and alternative solutions, the estimated calendar of the research activities (Gantt chart of the project) etc. The scientific and financial sustainability of the project is a mandatory condition.

In order to ensure a coherent scientific path of the doctoral student, 5 oral presentations are planned within the scientific research program in front of the doctoral supervisor and the guidance commission:

- a) in the first year of the doctoral university studies, the doctoral student presents the Scientific Research Project (sem I) and a research report, R1 (sem II);
- b) in the second year, the doctoral student presents two progress reports regarding the scientific research activity, R2, R3, and in the third year (sem I) a progress report, R4.

During his doctoral studies, the doctoral student is guided/supported by a steering committee consisting of 3 other professors or researchers of TUCN, who have the title of doctor and at least the position of head of works, university lecturer or third degree scientific researcher, who have skills in the subject of the thesis. The main role of the guiding commission is to guide the doctoral student during the development of the doctoral program in order to elaborate the doctoral thesis. The steering committee meets at least once every 6 months at the request of the doctoral student. The doctoral student has the obligation to inform the committee about the reasons for which he/she requests the meeting of the committee and to prepare a short report with the results obtained from the last meeting. The steering committee has the following obligations:

- a) to analyze the research project of the doctoral student and to make sure that there are all the conditions for its achievement in 3 years;
- b) to support the access of the doctoral student to the research infrastructure necessary for the achievement of the research program;
- c) to promote the national and international visibility of the doctoral student by publishing articles and participating in conferences and congresses in the field of thesis;
- d) to monitor the accomplishment by the doctoral student of the performance indicators established at the level of the doctoral school in order to grant the doctoral title;
- e) to support the doctoral student, starting from the end of the second year, to prepare his/her professional career;
- f) to supervise the writing of the doctoral thesis and to contribute through suggestions and comments to raising its level;
- g) to participate in the defense of the progress reports, in the defense of the thesis in the department/group, as well as in the public support.

The doctoral studies are completed by defending the doctoral thesis in public session before the commission for analysis and public defense of the doctoral thesis, in accordance with the provisions of the Institutional Regulation on the organization and development of doctoral studies at the Technical University of Cluj-Napoca and of the Procedure regarding the completion of doctoral studies within IOSUD-TUCN:

https://iosud.utcluj.ro/files/Files/EN-Files/Sustinerea%20tezei%20de%20doctorat/Procedura%20sustinere%20teza_Editia%20II_Revizia%201_CA_22.02.22.pdf

The doctoral thesis is elaborated according to the standards for the elaboration of the doctoral thesis:
<http://iosud.utcluj.ro/sustinerea-tezei-de-doctorat.html>

During 2017-2021, a number of 283 doctoral theses were defended. The figures below (5 and 6) show

the evolution of defended doctoral theses between 2017-2021.

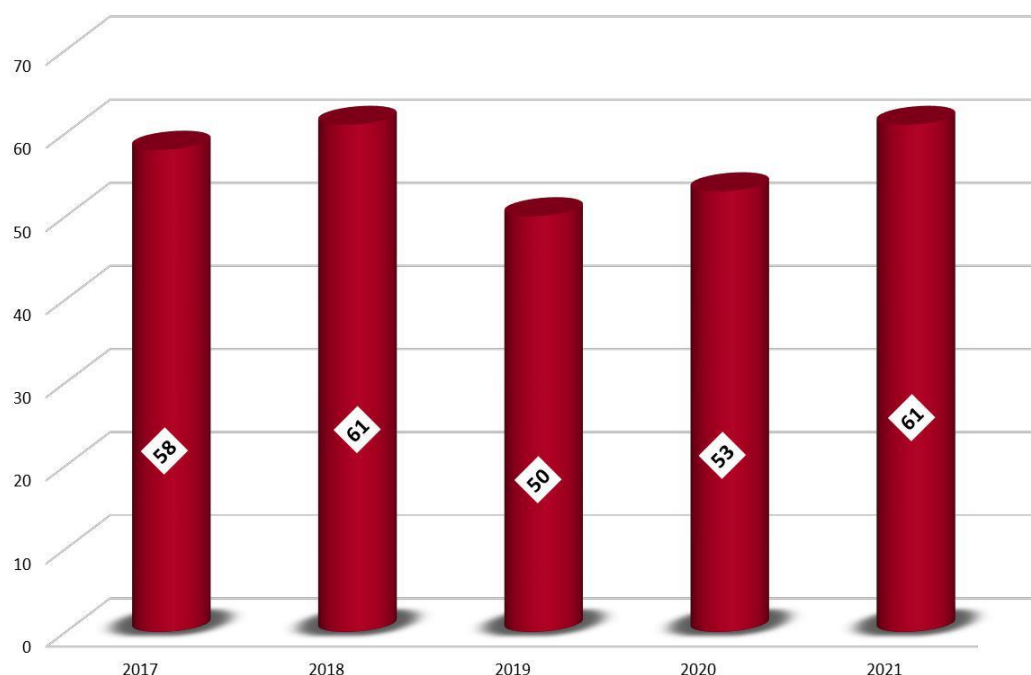


Figure 6 – Doctoral theses defended in the evaluated period.

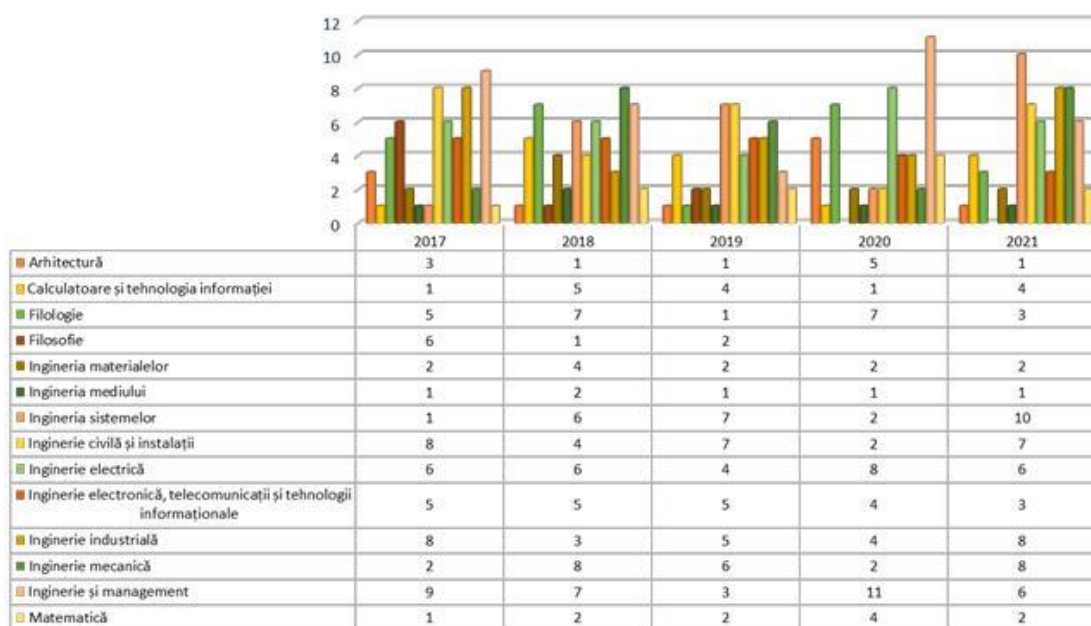


Figure 7 – Doctoral theses defended in the evaluated period for each field.

1.1.10.2. Research activity

The Technical University of Cluj-Napoca is one of the 12 universities of “*advanced research and education*” in Romania, has as major objective the involvement in advanced scientific research, gaining significant scientific results, the approach of interdisciplinary and multidisciplinary topics, the integration through research results in the exchange of national and international values, the increase of national and international visibility, but also the attraction and creating a highly qualified human resource. University promotes basic, applied research and innovation, and the research topics cover the fields of

engineering, exact sciences and humanities:

<https://research.utcluj.ro/index.php/domenii-de-cercetare.html>

Organizationally, the research is carried out at the level of departments, especially in the 89 internally accredited research structures <https://research.utcluj.ro/index.php/domenii-de-cercetare.html>. The coordination of scientific research is carried out mainly by doctoral supervisors with the broad involvement of all young professors and researchers, PhD students and students. Research teams enjoy the freedom to choose their topic, but institutionally, research is supported in line with the priority directions included in the research - development - innovation strategies at regional, national and international level. The university is making sustained efforts to establish a research institute in artificial intelligence, being in the stage of obtaining funding to start the design activities of the institute. The research activity in the institute will align with the fields and niches of intelligent specialization RIS3 with constant adaptation to national and international trends <https://www.nord-vest.ro/strategia-de-specializare-inteligenta-a-regiunii-de-dezvoltare-nord-vest-ris3-n-v-2021-2027/> with constant adaptation to national and international trends.

The share of full-time staff involved in research (57.68%) remained almost constant (Table 2), as did the number of PhD students. It should be mentioned that doctoral students with a significant share of approximately 42.320% (table 3) represent the driving force of the research. Attracting and retaining valuable young people is the most important goal that will ensure the growth of research excellence and can be achieved mainly only by attracting funds for research.

Table 2 – Repartition of human resource involved in the research activity

Position	2017		2018		2019		2020		2021	
	Nr.	%	Nr.	%	Nr.	%	Nr.	%	Nr.	%
		TUCN		TUCN		TUCN		TUCN		TUCN
Professor	160	10.58%	158	10.37%	151	9.77%	159	10.30%	151	9.88%
Assoc. Prof.	233	15.40%	229	15.04%	257	16.62%	269	17.43%	284	18.57%
Lecturer	369	24.39%	367	24.10%	361	23.35%	351	22.75%	345	22.56%
Assistent dr.	92	6.08%	90	5.91%	83	5.37%	75	4.86%	50	3.27%
Assistent drd.	49	3.24%	44	2.89%	40	2.59%	36	2.33%	47	3.07%
Preparator drd.	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Researcher	5	0.33%	5	0.33%	5	0.32%	5	0.32%	5	0.33%
Total staff	908	60.01%	893	58.63%	897	58.02%	895	58.00%	882	57.68%
Doctorand	605	39.99%	630	41.37%	649	41.98%	648	42.00%	647	42.32%
TOTAL	1513	100%	1523	100%	1546	100%	1543	100%	1529	100%

As can be seen in table 3, the annual revenues attracted and collected through research activity from various competitions experienced slight increases during the years 2016-2019, and in 2020 there is a decrease of 19.52%, which can be caused by the economic effects of the pandemic. TUCN has carried out and is constantly carrying out projects won through international H2020 type competitions, being on the 2nd position after UPB as the value of the agreements attracted in the ranking made by the EU. The increase in funding attracted from the national and international economic environment underlines the constant concern for conducting research and transferring its results to the economic environment.

Table 3 – Dynamics of revenues attracted from certain types of research activities

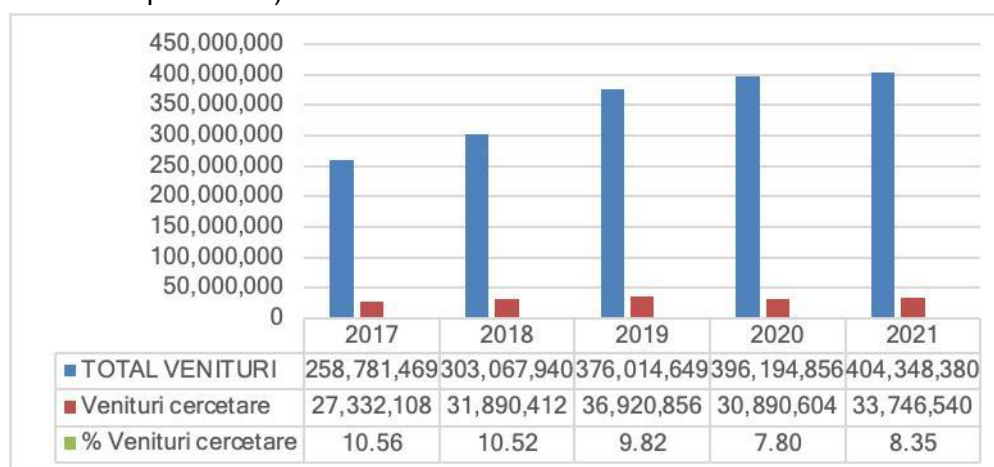
Finance source	2017		2018		2019		2020		2021	
	Nr.	Value [LEI]	Nr.	Value [LEI]	Nr.	Value [LEI]	Nr.	Value [LEI]	Nr.	Value [LEI]
National competitions	113	15.681.184	103	14.636.227	57	13.897.289	71	12.569.799	69	12.315.222
International competitions	17	4.613.127	15	4.238.805	30	5.938.022	41	7.606.561	38	6.525.034
Agreements with foreign companies	23	1.926.695	13	1.892.104	27	1.919.411	13	621.479	14	344.607
Agreements with national companies	117	2.388.679	102	4.129.701	213	4.760.211	164	2.418.973	154	2.842.231

Funding from the university own revenues for internal competitions, support grants for research, awarding research results and/or awarding monthly research grants are intended by the university management to help, encourage and facilitate the training of young generations in the formation of research teams and/or for the development of project proposals in strategic areas to attract new funding (table 4).

Table 4 - Dynamics of supporting research activities from the university own revenues

Financing from own revenues	2017		2018		2019		2020		2021	
	Nr.	Value [LEI]	Nr.	Value [LEI]	Nr.	Value [LEI]	Nr.	Value [LEI]	Nr.	Value [LEI]
Internal competitions and Support Grants	81	505.771	155	734.758	96	882.351	196	899.722	228	961.848
Monthly research grants	281	421.756	359	353.556	273	290.756	249	296.725	363	455.527
Dissemination	-	-	-	-	-	-	-	-	114	892.971
TOTAL RESEARCH	362	927.227	514	1.088.314	369	1.173.107	445	1.196.447	705	2.310.346

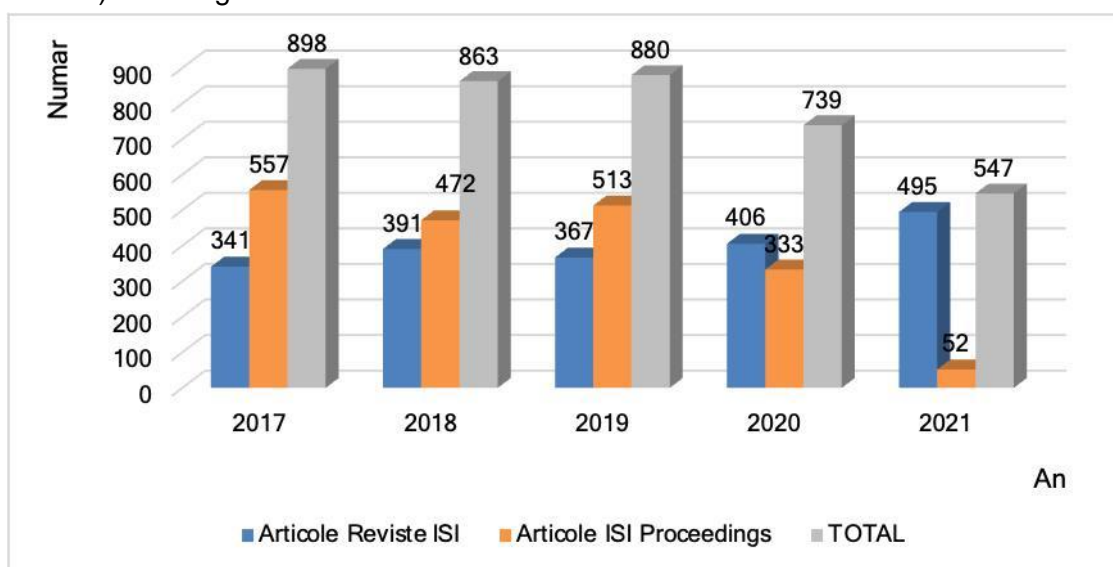
Analyzing the dynamics of research revenues from the perspective of the percentage of total revenues collected per university (figure 8), it is found that this proportion is slightly decreasing, but in absolute value research revenues have increased steadily except in the last year (a possible decrease due to economic effects of the pandemic).

**Figure 8 - Evolution of research revenues in relation to total revenues collected per university (including research projects funded by structural funds).**

Legend: Total venituri = total revenues

Venituri cercetare = research revenues

Regarding the most important indicators related to research, those of scientific production, there is an upward trend in the number of articles indexed in international databases, respectively in Web of Science - Clarivate Analytics (figure 9). Thus, the number of articles published in indexed journals as well as the number of articles published in the volumes of ISI Proceedings (Conference Proceedings Citation Index) show significant increases.

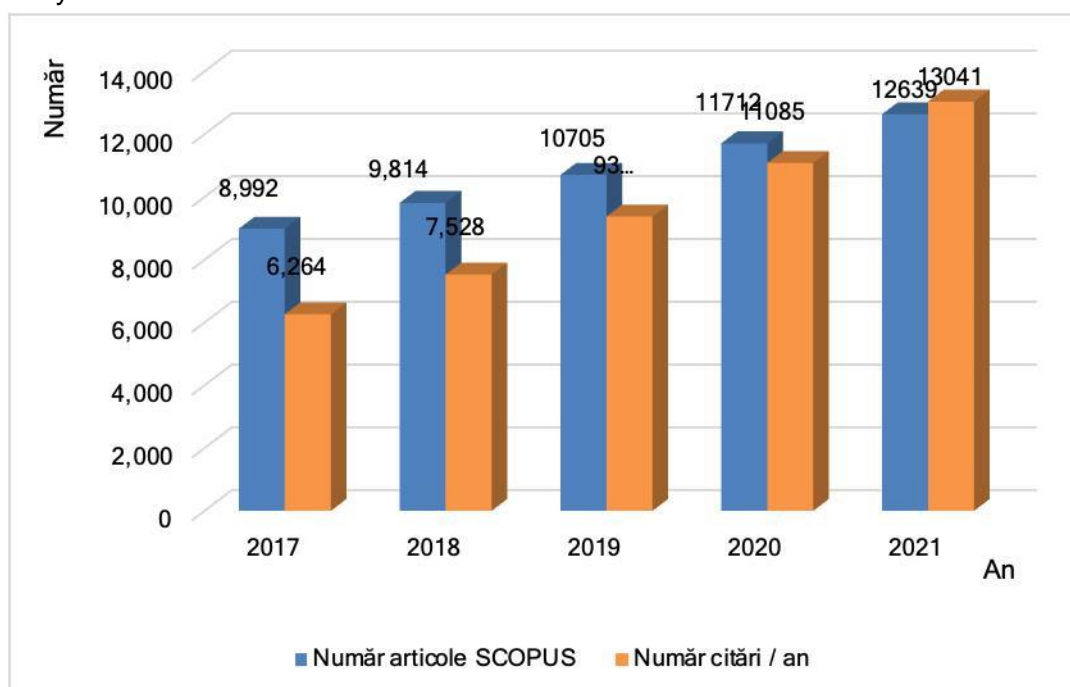


ISI Journals Articles

Figure 9 - Evolution of the number of ISI articles in TUCN (according to Web of Science)

Note* - The values corresponding to the years 2020 and 2021 are temporary due to delays in publication and especially indexation.

During the analyzed period, there is a significant increase in the number of citations as well as citing articles (figure 10). This positive development shows an increase in the way research results are published as well as an increase in recognition and prestige in the international scientific community of the university.



Numar articole SCOPUS = Number of SCOPUS articles

Numar citari / an = Number of quotations/year

Figure 10 - Evolution of citations on articles published during 2016-2021 period

A significant potential for improvement is highlighted at the level of patenting activity, which has had a relatively constant evolution in the analyzed years. 68 applications were filed and 46 patents were obtained. It should be noted that these results are in line with regional and national trends as highlighted in the Annual Reports of State Office for Inventions and Marks (OSIM) and TUCN is an important contributor to the protected intellectual property in the area it serves. SCImago Institutions Ranking/SIR (<http://www.scimagoir.com>) annually prepares a ranking that includes institutions that have activities directly related to research and that uses for ranking a composite indicator, which combines a set of defining variables: research, innovation and impact on society. The latest published ranking, for 2021, includes a total of 4126 universities and TUCN is ranking places the 756 position (figure 11) at international level.

Nr.	Instituție	Poziție*
1	Iuliu Hatieganu University of Medicine and Pharmacy Cluj Napoca	683
2	Politehnica University of Bucharest	690
3	Babes-Bolyai University	703
4	Alexandru Ioan Cuza University	720
5	University of Bucharest	723
6	University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca	724
7	Carol Davila University of Medicine and Pharmacy	728
8	Technical University of Cluj-Napoca	756
9	Transilvania University of Brasov	763

Figure 11 - SCImago ranking at national level for 2021

The university participated in 2019 in the international QS Stars evaluation and obtained 4 stars out of five possible, equivalent to an internationally recognized university of excellence, the certification being maintained in 2020. Only 2 universities in Romania have obtained such a certification.

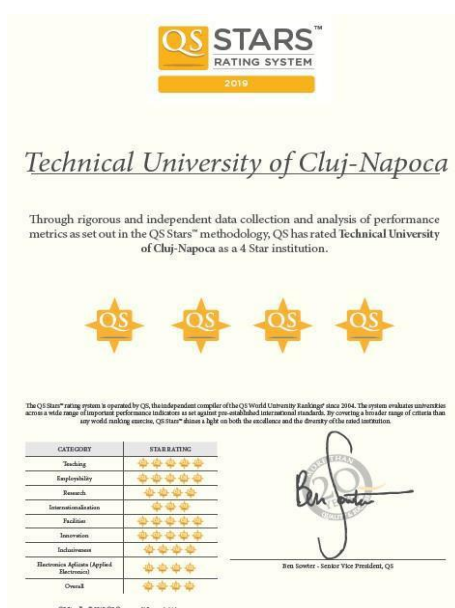


Figure 12 - QS Stars certification

În rankingul QS pe domenii (subject), pe anul 2021, din 1453 de instituții clasificate, domeniile din UTCN se poziționează după cum urmează: domeniul Inginerie electrică și electronică, se clasează pe locul 351-400 la nivel mondial și pe locul 2 în România, domeniul Calculatoare pe locul 551-600 la nivel mondial și pe locul 3 în România, iar domeniul Inginerie mecanică a rămas pe locul 301-350 la nivel mondial, dar pe locul al doilea în România.

		2019	2020	2021
Engineering & Technology	Engineering & Technology			451-500
	Computer Science & Information Systems	551-600	451-500	551-600
	Engineering - Chemical			
	Engineering - Civil & Structural			
	Engineering - Mechanical, Aeronautical & Manufactu..	351-400	351-400	301-350
	Engineering - Electrical & Electronic	401-450	351-400	351-400
	Engineering - Mineral & Mining			
	Petroleum Engineering			

		Global Rank	Domestic Rank	Academic	Employer	Citations	H-index	Score
Engineering & Technology	Engineering & Technology	451-500	2	62.4	56.9	62.2	51.9	59.1
	Computer Science & Information Systems	551-600	3	56.3	55.7	63.9	62.7	50.2
	Engineering - Chemical							
	Engineering - Civil & Structural			54.7	57.4	52.4	47.8	54.1
	Engineering - Electrical & Electronic	351-400	2	44.3	56.4	57.2	44.1	49.8
	Engineering - Mechanical, Aeronautical & Manufactu..	301-350	2	49.6	46.5	53.2	44.5	48.4
	Petroleum Engineering							

Figure 13 - QS classification of fields/specializations, TUCN position

În ranking-ul Times Higher Education, domeniul Calculatoare a fost încadrat în clasa 600+ iar domeniul Inginerie în clasa 800+ la nivel mondial.



Figure 14 - The World University Rankings 2021 by subject, TUCN position

The capitalization of the research results and the attraction of partners from the economic environment was also achieved through the Center for the Technological and Knowledge Transfer (CCTC), which managed:

- The organization of the TUCN stand at the International Exhibition of Scientific Research, Innovation and Inventions PRO INVENT, organized by TUCN at the 2016, 2017 and 2018, 2019, 2020 and 2021 editions facilitated the promotion of technology transfer offers based on patents and patent applications among innovative companies and the media;

<https://proinvent.utcluj.ro/>

- Participation in national and international invention fairs and promotion of research excellence results has brought numerous awards and medals:

- 6th Annual International Invention Innovation Competition in Canada, iCAN 2021, Toronto

- Asianinvent Singapore Show, Singapore, 2020 edition;

- Bangkok International Intellectual Property, Invention, Innovation and Technology Exposition (IPITEx 2019), Thailand, 2019 edition;

- INFOINVENT Show, Chisinau, Republic of Moldova, 2017, 2019, 2021 editions;

- INVENTICA Show of Iași, Romania, 2016, 2017, 2018, 2019, 2020, 2021 editions;

- EUROINVENT Show of Iași, Romania, 2016, 2017, 2018, 2019, 2020, 2021 editions;

- Cadet INOVA Show, Sibiu, Romania, 2017, 2018, 2019, 2020, 2021 editions;

- “Traiana Vuia” Show, Timișoara, Romania, 2017, 2020, 2021 editions;

- ICE-USV Show, Suceava, Romania, 2017, 2018, 2019, 2020, 2021 editions

- Conducting training sessions on intellectual property issues with company managers and researchers of TUCN and the University of Agricultural Sciences and Veterinary Medicine of Cluj- Napoca (USAMV);

- Collaboration with OSIM specialists for 6 sessions of Prediagnosis of intellectual property, Cluj- Napoca, March 20-22, 2019;

- Organization of TUCN Research Conferences, conferences focused on presenting the most representative results obtained from the research activity carried out in TUCN in the years 2017-2021, respectively the Young Researchers Conference (within ProInvent) in 2016;

- Elaboration of brochures to present the offer addressed to the economic environment;

- Creating a section dedicated to technology transfer on the research website;

- Diversification of information services offered by the Regional Center for the Promotion of Industrial Property PATLIB Cluj operating under the umbrella of CTTC, due to access to the EU IPR Helpdesk, a network that is interconnected with the Enterprise Europe Network (CTTC has a member in this network that started activity in 2013);

- Participation in 2019-2020 in the technical assistance project "Supporting Innovation in Catching-Up Regions of Romania", a project funded by the European Commission, through the Directorate-General for Regional and Urban Policy (DG Regio), a project coordinated by the World Bank and implemented in collaboration with the North-West Regional Development Agency;

- Accreditation of the Center for Technology and Knowledge Transfer (CTTC) by the Ministry of Education and Research as an entity of innovation and technology transfer, on February 11, 2020, for a period of 5 years.

- Operation of the support center for scientific excellence within the project "CeS - Scientific Excellence and Intelligent Specialization by creating a Support Center dedicated to facilitating the access of public

and private entities to RDI projects / competitions", Competitiveness Operational Program, Priority Axis 1. Regular workshop sessions were organized, where researchers from universities and companies were presented with experiences in European projects or in the process of developing and submitting these projects.

The research activity carried out by the academic community of TUCN was rewarded with numerous research awards, of which we mention 5 awards of the Romanian Academy obtained during 2017-2021.

1. Radu Dănescu, "Perception through particles ", CONSTANTIN BUDEANU award for 2019, awarded in 2021, in the field of Technical Sciences
2. Nicolae Ursu, FISCHER and Mihai URSU, "Numerical methods in technology" TRAIAN VUIA award for 2019, awarded in 2021, in the field of Technical Sciences;
3. Cornel BRIȘAN, Cătălin BOANTĂ and Veturia CHIROIU, "Introduction in optimisation of industrial robots: theory and applications", premiul HENRI COANDĂ, award for 2019, awarded in 2021, in the field of Technical Sciences;
4. Ioan Salomie, Tudor Cioară and Ionuț Anghel, "Intelligent solutions for energy ecosystems", CONSTANTIN BUDEANU award for 2018, awarded in 2020, in the field of Technical Sciences;
5. Lucian Lăzărescu, "Design of technologies and molds for sheet metal processing", AUREL VLAICU award for 2017, awarded in 2019, in the field of Technical Sciences;
6. Arthur Daniel Costea and Robert Varga, "Multimodal methods, multi-resolution environmental perception for autonomous mobile systems", CONSTANTIN BUDEANU award for 2017, awarded in 2019, in the field of Technical Sciences
7. Petru Berce, Nicolae Bâlc, Dan Leordean, Cristina Borzan, Horea Chezan, Voicu Mager and Cristian Berce, "*Medical applications of manufacturing technologies by adding material*", HENRI COANDĂ, award for 2015, awarded in 2017 in the field of Technical Sciences;

Annexes

[Annex 1.1.10. Research Themes TUCN](#)

[Annex 1.1.10. Research projects](#)

[Annex 1.1.10. Scientific publications](#)

1.1.11. Research infrastructure and awarding research grants

The research structures within TUCN have a significant material base, which is presented both on their own sites and on EERIS site:

<https://eeris.eu/>

The access of doctoral students from the 14 doctoral fields of IOSUD-TUCN to the research resources of the research structures is stipulated in various regulations for doctoral university studies:

- **Institutional Regulation for the organization and development of doctoral studies and postdoctoral programs for advanced research** at the Technical University of Cluj-Napoca displayed on the web page:

https://www.utcluj.ro/media/decisions/2020/10/02/REGULAMENT_Institutional_Doctorat.pdf

- **Regulations of the Doctoral School** of the Technical University of Cluj-Napoca within IOSUD-TUCN:

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

- Agreement of doctoral studies:

http://iosud.utcluj.ro/files/Files/Admitere/Contracte%202020/14_Contract_cadru_studii_doctorale_2020%20D._Arhitectura.pdf

Ensuring the necessary resources for the development of doctoral training is an obligation of TUCN, IOSUD-TUCN, the TUCN Doctoral School, the Coordination Councils and the tutelary faculties of each field.

The Technical University of Cluj-Napoca supports doctoral students and postdoctoral researchers by awarding research grants, which is reflected in the Scholarship Methodology displayed on the university website:

https://research.utcluj.ro/tl_files/research/Documente%20CCS/Formulare/Metodologie%20acordare%20bourse%20cercetare_2015.pdf

1.1.12. Human resources

The body of doctoral supervisors within IOSUD-TUCN consists of **196** members, and the total number of doctoral students is 1327. The distribution of leaders on the 14 CNATDCU doctoral fields is given in table 5.

Table 5 - Distribution of leaders by doctoral fields

Nr.crt	The fundamental field of hierarchy	Doctoral field	No of doctoral supervisors
1	Humanities and arts	Architecture	6
2	Humanities and arts	Phylosophy	5
3	Humanities and arts	Phylology	6
4	Engineering sciences	Computers and information technology	13
5	Engineering sciences	Materials engineering	9
6	Engineering sciences	Environmental Engineering	6
7	Engineering sciences	Systems engineering	17
8	Engineering sciences	Civil engineering and installations	10
9	Engineering sciences	Electical engineering	37
10	Engineering sciences	Electronic engineering, communications and information technology	22
11	Engineering sciences	Industrial engineering	15
12	Engineering sciences	Mechanical engineering	27
13	Engineering sciences	Engineering and management	12
14	Mathematics and Natural Sciences	Mathematics	11

Within TUCN, there are organized dissertations of authorization theses in the 14 accredited fields starting with the academic year 2013/2014. During the 2017-2021, a number of 46 habilitation theses were defended (figure 15), both by professors of TUCN, as well as from other national universities and

research centers. TUCN financially supports the empowerment support by reducing the empowerment fee for TUCN employees (Fees for academic year – [Annex 1.1.12. Taxes 2020-2021](#)), and starting with January 19, 2021, the authorization fee is fully refunded after obtaining the authorization certificate, affiliation to the TUCN Doctoral School and enrollment of at least one doctoral student (**Decision of the Board of Directors no. 12 of January 19, 2021** - [Annex 1.1.12. HCA 12 din 19.01.2021 Candidates habilitation](#)).

https://www.utcluj.ro/media/decisions/2020/07/06/Taxe_2020-2021.pdf

http://iosud.utcluj.ro/files/Files/HCA_12_din_19.01.2021_Candidati_abilitare.pdf

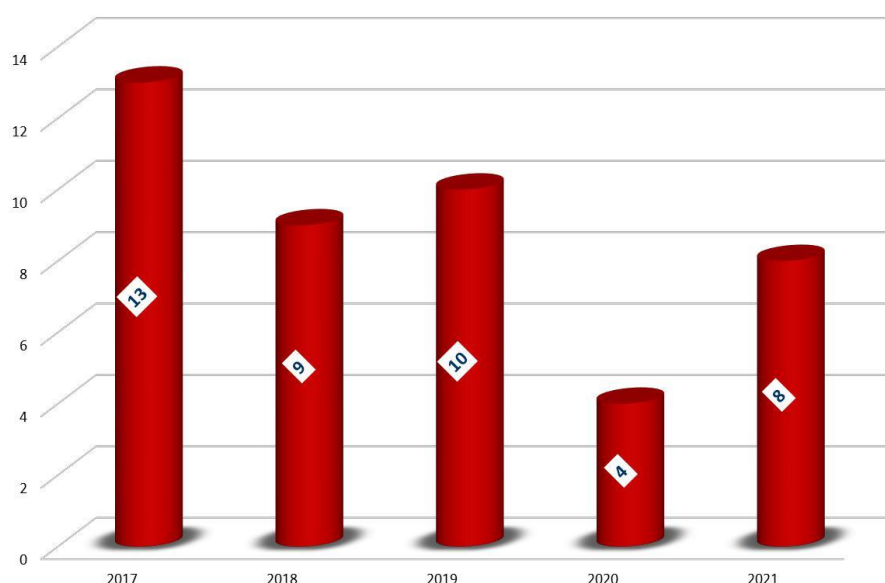


Figure 15 - authorization theses defended in the period 2017 - 2021

Annexes

[Annex 1.1.12. Taxes 2020-2021](#)

[Annex 1.1.12. HCA 12 din 19.01.2021 Candidates habilitation](#)

1.1.13. Services for doctoral studies

Accessibility of public information for doctoral students

Web platform is addressed to doctoral students of the Technical University of Cluj Napoca. From the moment the platform was launched until now, 199337 accesses of information on the empowerment of professors and researchers, confirmation orders and other information relevant to the interested public were registered. The application is very useful for the internal academic environment, but also externally because all the information is centralized in a single platform. The information posted on the Doctoral School website currently refers to all categories of public who come to the university or work inside it. Since the last redesign of the IOSUD-TUCN site, changes have been made to all the structures that are part of the site. The information is updated regularly, so that a significant increase in the number of visitors to the site could be observed. The coherence and transparency of the information of public interest is ensured through an efficient and correct communication, having as communication tools, the press releases, as well as all the manifestations of awarding the doctoral title in a festive setting. Social media channels complement real-time communication through constant interaction with PhD students, the academic community and the general public. <http://iosud.utcluj.ro/>

Leaflets were made for the presentation of doctoral study programs in Romanian, English and French, with the possibility of annual updating and re-editing, as well as graphic materials for participation in

educational fairs.

Starting with the academic year 2020/2021, the registration of candidates for admission took place online through the platform doctorat.utcluj.ro. Currently, the platform manages admission data, guidance committee, contracted subjects, research topic and other information for doctoral students admitted in the academic year 2020/2021 and is continuously optimized to include all information regarding the doctoral internship and completion of the doctoral thesis (summaries of the doctoral theses, the composition of the public support commissions, the date and place of the defense) for all doctoral students of the TUCN Doctoral School.

doctorat.utcluj.ro

University library and publishing house

Providing adequate teaching materials and access to state-of-the-art fundamental and specialized knowledge is a necessity for carrying out the quality educational act and for carrying out a valuable research activity. Through the acquisitions made and the correct management of the existing book fund, the TUCN Library, present in all the locations of university (Cluj-Napoca, Baia Mare and extensions), ensures access to over 586,000 volumes for students, professors and researchers.

<https://viziteaza.utcluj.ro/editura.html>

<https://biblioteca.utcluj.ro/prezentare-editura.html>

<https://biblioteca.utcluj.ro/materiale-editura.html>

<https://biblioteca.utcluj.ro/carti-online-cu-coperta.html>

<https://biblioteca.utcluj.ro/prezentare-biblioteca-CUNBM.html>

Annexes

[Annex 1.1.13. Romanian journal subscriptions](#)

[Annex 1.1.13. Foreign journals subscriptions](#)

TUCN is also an institutional user of the national ANELIS Plus system that allows the academic community access to a wide range of international databases containing the latest scientific articles. Through the subscription purchased, the academic body of the university has access to the following databases: American Institute of Physics Journals, American Physical Society Journals, IEEE All-Society, Institute of Physics Journals, OXFORD Journals, PROQUEST Central, Science Direct, SCOPUS, Springerlink Journals, Thomson Web of Knowledge REUTERS and Wiley Online Library. According to **Decision CA 9/15.01.2019** ([Annex 1.1.13. Decision CA 9 din 15.01.2019](#)) all doctoral students within IOSUD-TUCN benefit from free electronic access to the scientific and research literature through the ANELIS Plus portal.

http://iosud.utcluj.ro/files/Legislatie/Hotarare_CA_9_din%2015.01.2019.pdf

Starting with the academic year 2019/2020, the new form and structure for doctoral and authorization theses has become mandatory, and the publication costs in the U.T.PRESS Publishing House for these are provided by the Technical University of Cluj-Napoca for a number of 25 copies, for the theses of maximum 200 pages, according to **Decision CA 74/16.07.2019** ([Annex 1.1.13. HCA _ 74 _ 16.07.19](#)).

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/HCA_74_16.07.19.pdf

Annexes

[Annex 1.1.13. Decision CA 9 din 15.01.2019](#)

[Annex 1.1.13. HCA 74 16.07.19](#)

1.1.14. International relations

The development of international relations is one of the main development directions identified in the Strategic Plan 2016-2020, as well as Strategy of TUCN 204, and the intensification of exchanges of PhD students, the increase in the number of foreign PhD students enrolled at TUCN and the positive dynamics of staff exchanges reflect this approach.

The University considers that the mechanisms and mobility programs of Erasmus + type, the French-speaking academic space, etc. directly contribute to increasing the quality of the university educational processes, to its higher prestige and to its improved visibility in the European Higher Education Area.

The European Universities, European University of Technology - EUt+ project, which runs from 2020 to 2023, lays the foundations for a new type of university, active locally, regionally and in Europe, which will generate added excellence and value for European society, economy and culture. The project is coordinated by the Université de Technologie de Troyes, (France) and includes, together with TUCN, the following universities: Technical University of Sofia (Bulgaria), Cyprus University of Technology (Cyprus), University of Applied Sciences Darmstadt (Germany), Riga Technical University (Latvia), Technological University Dublin (Ireland), Universidad Politécnica de Cartagena (Spain).

The European University of Technology, through the synergy of its members and partners, aims at ambitious objectives from the perspective of doctoral studies and research, such as: creating a common EUt + curriculum at bachelor's, master's and doctoral level that will ultimately lead to a single EUt+ diploma, full integration of programs from the eight universities, to give students the opportunity to choose the campus and how to obtain ECTS credits, facilitating student mobility based on a single European Student Card, which will provide access to all services (libraries, sports and recreation facilities, accommodation) in all eight campuses, similarly, the creation of a single EUt+ professional card for academic and administrative staff in the consortium universities, to ensure access to all eight services campuses, development of common research laboratories, development of a common infrastructure (resources of library, databases, learning and research platforms, etc.).

Based on the results obtained in the work packages and in the planned activities, relevant documents were signed: Memorandum of Understanding: Toward a single University, Memorandum of Agreement (MoA) for the creation of European Research Institutes, the Related EUt+ Graduate Research School and Supporting Research Office, MoA Cluster Wave II, MoA for creation of EUt+ Bachelor in Engineering and Master in Engineering Programmes, EUt+ Agreement for the Creation of the EUt+ Innovation & Technology Transfer Office, EUt+ Agreement for the Creation of the EUt+ European Research Office. An important step in the development of the project was the establishment of clusters on different specializations, in which the curriculum was harmonized and the main competencies specific to these specializations were established, a "map" of mobility for the recognition of certain disciplines between partner universities was made. Several series of conferences on Sustainability and Data Science have been organized in preparation for future European research institutes, as well as a series of courses / conferences on European identity. The partner universities of the EUt + consortium have applied for funding for several projects to support the EUt + initiative, in 2021 the EthiCo, Ludeia, EutiNN and Aestehico projects were funded, projects in which several workshops and conferences were organized under the auspices of Think Human First: Humanity the day after tomorrow, EthiCo Intensive program (program for students on technology ethics), etc.

On the French-speaking line, the International Relations Office has supported the organization of events and conferences, of a high scientific level, among which we mention:

- Conference entitled "*Successful transition to digital/Réussir la transition numérique*" and "*Pedagogical Hackathon*", organized in collaboration with the French Institute in November 2017.
- The conference cycle "*Recontres Europeenes de Transylvanie – Comment reusir la transition vers une ville plus durable?*", organized in collaboration with the French Institute in March 2018;
- The debate on "*The digital revolution and artificial intelligence: what challenges the future brings*", organized in collaboration with the French Institute in January 2019.

The ERASMUS+ office coordinates and promotes programs funded by the European Commission in the field of education and training within TUCN, ensuring the optimal framework for the participation of students and the academic/administrative community in the university. The main field of activity is the Erasmus component.

Attention was paid to promoting the educational offer at the level of doctoral studies by increasing the visibility of the fields offered by TUCN, as a result of participating in educational fairs and campaigns to promote these programs, by translating the TUCN website and by updating information on the platform <http://studyinromania.gov.ro>

Thus, in the period 2017-2021, TUCN was present at the following major international fairs, where doctoral studies were promoted: Journée Portes Ouvertes pour la Roumanie au Maroc, Marrakech, Martie 2017; Studyworld Berlin, May, 2017; Azerbaijan-Romania I Interuniversity Forum May, 2017, Baku, Azerbaijan; Conference and Exhibition of EAIE Seville, September 2017; Education and Career 2018 and Education Abroad, in Kiev, Ucraina; Study in Romania, Dubai, United Arab Emirates, February - March 2018; Study in Romania, Rabat and Casablanca, Maroc - March 2018; The Fair of Universities in Romania, Chişinău, 2018; Study in Romania- Asghabat. Turkmenistan- July 2018; EAIE Geneva Conference and Exhibition, September 2018; Campus Romania - Tunis, Tunisia- October 2018, NAFSA Annual Conference and Exhibition 2019, Washington - May 2019, EAIE Annual Conference and Exhibition 2019, Helsinki - September 2019, International Education Fair Kazakhstan - Nur Sultan, Shymkent, Almaty -October 2019, Global Education Fair International Fair, Vietnam - October 2019, Romanian Universities Fair, Chişinău - July 2019, Ashgabat International Education Exhibition - November 2019, Kazakhstan International Education Fair - October 2019, Astana, Kazakhstan International Education Fair - October 2019, Shymkent, Kazakhstan International Education Fair - October 2019, Almaty. The year 2020 was marked by the presence of TUCN at several virtual educational fairs: Study in Europe - Singapore Virtual Fair, September 2020, RIUF Virtual Fair - October 2020, Vietnam Education Fair - December 2020, ABC Fairs - Online Fair for Central Asia (Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Azerbaijan) - June 2020, BeginGroup Eurasia region (Azerbaijan, Georgia, Ukraine, Belarus) - October 2020, BeginGroup Central Asia International Fair (Kazakhstan, Kyrgyzstan, Uzbekistan) - November 2020, online ABC Fairs for Francophone Africa, iune 2021, Fair organized by Begin Group for North Africa de Nord, september 2021, International Fairs of Begin Group for Central Assia, iune 2021, Fairs of Universities from Romania, organized at Chişinău, iulie 2021.

The doctoral studies within TUCN were promoted within the activities that took place from the organization of the International Week at TUCN, 2017 and 2020 editions (online).

In the period 2017-2021, were submitted and approved for financing the following FDI type projects in the field 2: Internationalization, which provided, planned and carried out specific activities to support the internationalization of doctoral studies, such as:

- Stimulating the international mobility of doctoral students, in order to increase the research capacity and the international visibility, ensured through linguistic support in the form of tutoring and through the organization of workshops/English language courses. The tutorial consists of linguistic revision, preparation for publication of works/posters/speeches/presentations written by authors. Language support activities were also carried out. The following courses were organized: Oral skills for teaching in English - English language course for the development of oral communication skills and Advanced grammar and structures for teaching in English - English language course for improving the fluency and grammatical accuracy of communication in English at an advanced level, oriented towards academic discourse specific to the research activities, to which the doctoral students could enroll.

- The improvement of services for international students was ensured by: English language courses for administrative/non-teaching staff, organizing Welcome Day events for international students, developing online applications on the website of the International Relations Office;

- Purchase of books, monographs, textbooks and subscriptions to specialized journals published in international languages;

- The dynamization of publishing in prestigious journals and the participation of TUCN doctoral students in international (onsite/virtual) conferences was ensured by financial support granted to the selected doctoral students based on objective criteria. Funds were provided to cover the costs related to participation taxes, population taxes, transport and accommodation

TUCN supports the conclusion of doctoral thesis agreements in co-supervision, during the evaluated period being concluded a number of 16 international co-supervision agreements.

1.1.15. Cooperation with the socio-economic environment

According to the university strategic plan 2020-2024, the relationship with the socio-economic environment is one of the four main areas of action that support the mission of University (education, research, relationship with the socio-economic environment and international relations) for which the following measures are to be implemented and monitored through annual operational plans.

The institutional construction for the Relationship with the socio-economic environment was created, as "*University strategy in relation to the socio-economic environment*" and was approved as a document by the TUCN Board of Directors. The Compartment for the Relation with the Social - Economic Environment (CRMSE), established in 2016, supports communication and institutional collaboration between TUCN and its socio-economic partners at local, regional, national and international level. The "*Regulation on the organization and functioning of the CRMSE*" was developed in the form of a framework regulation for the TUCN relationship with the socio-economic environment.

In 2017, the **Advisory Committee**, an institution of the Rector of TUCN, with a consultative role was established, as an interface between the university management and the socio-economic environment of insertion. The members of the Advisory Committee shall be representatives of the major economic operators in the region where TUCN is present: AROBS Transilvania Software, German-Romanian Economic Association for the North-West Region, Banca Transilvania, Bosch Group, Comelf, CON-A, Diferit, Electrogrup, Emerson, Star Transmission (STC) & Star Assembly (STA), Tenaris Silcotub Zalău, Universal Alloy Corporation Europe.

The foundations were laid for the tools necessary to carry out activities specific to the relationship with the socio-economic environment, by:

- improving of function and constantly updating the content of the web page (<http://crmse.utcluj.ro/>) and Facebook page (<https://www.facebook.com/Compartimentul-pentru-Relatia-cu-Mediul-Socio->

[Economic-UTC-N-102630301485084](#) dedicated to CRMSE, of section from Microsoft Teams online platform "Compartment for Relation with socio-economic environment", as well as digital totems;

- updating of totems in terms of technical and software application;
- a specific channel was created on the Microsoft Team platform has been created „Compartment for Relation with socio-economic environment”, on which more than 17,000 are active and post informations related to workshops, classes, presentations from economic environment, internship offers, employment offers, promoting of actions from TUCN projects;
- initiation, inițierea, developing, approval and tracking of collaboration contracts.

Within this framework, the consolidation and development of relations with socio-economic organizations is carried out, in order to participate the university in regional development and society by:

- identification of companies in region and research groups from university interested in the cooperation regarding the knowledge transfer and inclusion of information in data base according to the established structure;
- developing de contact database-> more than 235 companies in 2021;
- signing in 2021 of more than 200 noi cooperation/partnership contracts with companies, of which: 48 are CRMSE framework contracts + 29 CTFS + 40 ANTREDOC + 100 PAVING project, as well as running of over 250 active contracts.

Database of CRMSE compartment has been used during 2021, as support for:

- organizing of International Fair for Inventions and Research - PRO INVENT 2021, edition XIX, runned on line 20 - 22.10.2021;
- supportings the program **"TUCN 2021 – Excellence in engineering"**;



- running and submission of projects financed by structural funds, EU+;
- communication with TUCN ALUMNI community.

Currently, TUCN is a founding member or partner in 16 regional clusters, of which, 6 partnerships were added in the period 2016-2020, respectively: Creative Transilvania Industries Cluster; Eco - Cluster; DRIFMAT cluster - distributed research infrastructure for materials, applications and technologies of the future; C-EDU education Cluster (the first clustered in education in Romania); weekly meetings, participation to StartupCity Malaga, 24 november 2021); Clusterul SpaceTech Transilvania; Cluster Pro-nzeb. TUCN has participated to AGA meetings of clusters: Mobilier Transilvan, Transilvania IT, Cluj IT, Clusterul of Creative Industries in Transilvania and contributes to their development.

Also, TUCN is an active partner, in order to prepare projects, within the two Digital Innovation Centers (DIH) in the North West Region, respectively: Digital Innovation HUB for Society - DIH4S and Transilvania Digital Innovation HUB which represents an essential step in successfully implementation

of Digital Europe Program, the first financing program from Multiannual Financial Framework dedicated to digital sector. TUCN has been involved in projects with impact for the local community such as, participation in the Strategy Commission for digitization, coordinated by Cluj Napoca City Hall or participation, in collaboration with Cluj Napoca City Hall and the socio-economic environment for writing the application for *"European Capital of Innovation"*.

At institutional level, TUCN was selected in the HEInnovate project, and the analysis of the results contained in the commission's report **Organisation for Economic Co-operation and Development** (OECD) on TUCN and Romania in the country report, is available at:

https://heinnovate.eu/sites/default/files/oecd_ec_supporting_entrepreneurship_and_innovation_in_higher_education_in_romania.pdf.

During the working meetings of the Advisory Committee, issues related to increasing TUCN competitiveness in the local and European context were addressed. By expanding technology research in several fields, such as artificial intelligence, smart specialization or smart digitization will bring both benefits to students and the development of international collaboration at the institutional level. Emphasis was placed on the concept of *"TUCN start-up"*, in order to support the development of entrepreneurial and entrepreneurial approaches, at management level, in relation to the business community, as well as entrepreneurial education and dynamic preparation of students for the labor market. It was presented the ***TUCN Start-up Guide***.

During this period, the educational offer was updated and correlated with the requirements of the labor market and by carrying out masters in collaboration with the economic environment: ***Quality management and engineering***, in which the courses are taught by **recognized experts in the field from Germany, Austria and Romania**; *Welding and quality assurance of materials*, carried out in collaboration with the Romanian Welding Association; *Advanced Techniques in Automotive Engineering* and *Management and Control in Automotive Engineering*, in collaboration with Porsche Engineering Romania; *Advanced electrical systems and structures*, in partnership with Renault Technologie Roumanie and Robert Bosch.

The transfer of knowledge and technology was carried out by equipping laboratories, research/consulting agreements, holding courses for students by specialists in the industrial environment (the course "Autonomous driving: Technology, Dynamics and Control ", organized by the Automation Department of the Faculty of Automation and Computers at TUCN, in partnership with Robert Bosch; Digital Google Workshop - digital training program organized in partnership with TUCN (Student Entrepreneurial Society), financial education workshop.

In 2019, new laboratories were set up, with the support of economic partners:

Centrul Universitar Nord din Baia Mare

Centrul de Training CNC Teximp-UACE-IMTech

- Universal Alloy Corporation Europe Dumbrăvița, Teximp AG Switzerland



Extensia Universitară Alba Iulia

Laborator CNC

- Bosch Automotive Blaj, Transavia SA, Sews-R România



Departamentul de Automatica, Cluj

Laborator Internet of Things

- Emerson, Robert Bosch, National Instruments



Legend:

Centrul Universitar Nord din Baia Mare = North University Center of Baia Mare
 Centrul de Training CNC Teximp-UACE-IMTech = CNC Teximp-UACE-IMTech Training Center
 Extensia Universitara Alba Iulia = University Extensions of Alba Iulia
 Departamentul de Automatica, Cluj = Automation Department, Cluj
 Laborator Internet of Things = Internet of Things Laboratory

Gateway LoRa - Orange Romania; Emerson laboratory - Dorobantilor; BosCh laboratory - advanced technology, Bosch corner.

Joint events and meetings were organized that contributed to the development of collaborative relationships and facilitated the transfer of knowledge to socio-economic organizations, in order to:

- awarding scholarships for students by companies (eg Robert Bosch Scholarships, Renault Technologie Roumanie, Star Transmission Assambly, “Roberto Rocca” Scholarships offered by Tenaris Silcotub, TechLounge - InnovationLabs), as well as awards for undergraduate works;
- carrying out support activities on the part of companies for the organization of student competitions (ex: collaborations with the Romanian-American Foundation, Innovation Labs, Entrepreneurial University);
- transparency of employment offers, through the recruitment platform offered by SmartDreamers or Infomunca, with employment and application opportunities for students;
- participation in joint local, regional, national and international development projects, such as: Interreg; POR; POCU; POC
- participation in events and conferences in partnership or with the presence of the economic environment and UTCN, through the faculties or departments: Discover your passion in IT - 2021 7th edition; 23 UTCN students benefiting from the Roberto Rocca Education Program 2021-2022 scholarships;



- Development of project **„The Month of the Company”** coordinated by CRMSE, by organization of technical and non-technical webinars for the students, interactive sessions and workshops:
 - 30.03–23.04.2021 *Bosch Month at TUCN - „LikeABosch Experience”, where 1800 students attended to more than 40 events and interactive sessions;*
 - 10-24.05.2021 *Tenaris Company Months*, that included three events: *A virtual tour of company, Gamification and Talk to Our Leaders*, gathering a significant number of participants.

#LikeABosch Experience
Event schedule

MONDAY
20.05 - 02.06
09.05 - 10.05
Meet Bosch Cluj Plant, Automotive Testing, Process Engineering and Future Bosch R&D Laboratory in TUCN (Open Discussion)
10.05 - 11.05
Tax and Risk for a successful internship (Open Discussion)

TUESDAY
03.05 - 04.05
09.05 - 10.05
Let's learn up to build the software for the future of mobility (Open Discussion)
10.05 - 11.05
Computer Vision and Cloud Connectivity for Driving Assistance and Automated Driving (Open Discussion)

WEDNESDAY
04.05 - 05.05
09.05 - 10.05
Electric power steering software development (Open Discussion)
10.05 - 11.05
Let's learn up to build the software for the future of mobility (Open Discussion)

THURSDAY
05.05 - 06.05
09.05 - 10.05
Electric power steering software development (Open Discussion)
10.05 - 11.05
Let's learn up to build the software for the future of mobility (Open Discussion)

FRIDAY
06.05 - 07.05
09.05 - 10.05
Meet Bosch Cluj Plant, Mechanical Design, Maintenance & Technology Quality Assurance (Open Discussion)
10.05 - 11.05
Future of Powertrains architecture / Technical preview into Fuel Cell technology (Open Discussion)

Tenaris Silcotub
Luna Companiei Tenaris la UTCN
10-24 mai 2021

10 Mai
Tur virtual al fabricii Explorarea

17 Mai
Gamification Activitate cu specific tehnic

24 Mai
Talk to Our Leaders Safe Skills Panel

LEGEND:
Event by Bosch Cluj Plant
Event by Engineering Center Cluj

- Events organized by companies for TUCN students:
 - 15.02.2022 „Model-Based Academy”, organized by Porsche Engineering Romania; •
 - 22.02-18.03 2021 „SNEAK PEEK”, technical webinars organized by Tenaris Silcotub for the TUCN students;
 - 01.04.2021 „VITESCO Technologies and You”, online workshop online organized by Vitesco Technologies România, for the TUCN students in the technical fields;
 - 01.04-08.08 „UNbrekable România”, summer season, it is a national contest in the field of cybernetic security addressed to the students, where students and academic staff from TUCN actively participate;
 - 06.05-02.06.2021 „Mars - IT's time to lift off your career” organized by NTT DATA, program for students;
 - 09.06.2021 – How occur „O working day in the Continental Sibiu?”;
 - 17.05-30.09 „Build Your Robot” is the sloganul under the STRATEC Company is promoted the internship program;
 - 12.07-17.09.2021, like every year, Tenaris Silcotub Company organizes internship for the UTCN students;
 - 28-30.08.2021 First Tech Challenge organised Robots National Competition competiția adressed to highschool students, during of TUCN participated as referee to every selection stage;
 - 01-30.09.2021 „BT Code Crafters” is the internship program organized by Banca Transilvania;
 - 19.10.2021, „Exhibition of Academiei DpIT 7.0 applications”, organizator Discover your passion in IT;
 - 28.10-12.12.2021 UNbrekable Romania, ed. Fall-winter, is a national contest in the field of cybernetic security to which students and academic astaff of TUCN are actively involved in;
 - 26-28.11.2021 „DefCamp Capture the Flag” organized by DelfCamp, is the most crushing and rebellious security CTF competition in Central and East Europ;
 - 05.11.2021 „Start your career as a Digital Engineer” is an internship program of HCL Company;
 - 05.12.2021 „Kick Off your STEM Career” – mentoring program of Emerson, ed. 3;
 - 09.12.2021 Workshop Continental Sibiu - „Industry 4.0 - Continental behind the scenes”.



Slimai colaboratori,

Nu face o descoperire plăcută să vă anunțăm lansarea unei noi inițiative dedicate studenților, din dorința de a veni în întâmpinarea celor interesați de domeniul industrial și așteptăm de binele tuturor.

Aceasta vor avea loc în perioada 22 februarie – 18 martie 2021 și vor fi animate de specialiști din echipa TenarisSilcotub, care îi vor ghida pe studenți într-o incursiune în lumea noastră, în care se vor familiariza cu procesele esențiale dintr-o companie industrială de nivel global.

Considerăm că un parteneriat solid între Universitatea Tehnică din Cluj-Napoca și TenarisSilcotub este esențial în dezvoltarea viitorilor profesioniști și ne mândrim să fim printre cei care demonstrează cum teoria acumulată pe parcursul studiilor se aplică în mediul real de muncă.

The university has been part of important events, as a participant, exhibitor or organizer, such as:

- Cluj Inovation Days (2017, 2018, 2019);
- The 2nd Workshop of International Network for Higher Education in Engineering - INHEE (2017);
- PRIA Innovation Conference (2017, 2018);
- Open Innovation 2.0 Conference (2017);
- Company night - a stop in your career (2019);
- Industry and Technology Fair - IDENTICOM4 (2019);
- Digital Talks - organized together with Cluj IT Cluster - matchmaking event between centers/laboratories/research groups within the university and member companies of the cluster (2019);
- Building Innovation: Financing & Acceleration - organized together with Cluj IT Cluster - event dedicated to the key concepts of SME Instruments: from basic principles, to the evolution towards the accelerator and blended finance mechanisms (2019);
- Events organized for students by companies in TUCN: Summer internship Continental Sibiu, Tenaris summer internship, RAF workshop dedicated to entrepreneurship education, Build Your Robot - STRATEC Internship 2020, Working Student Bosch, Emerson Engineering Bootcamp, Infineon Internship, Midsummer Ruby on Rails internship at Wolfpack Digital, Bosch Mechanical Design Summer School, IBM Workshop, etc. (2020); SNEAK PEEK, technical webinars organized by TenarisSilcotub for the TUCN students, 22.02-18.03.2021; Innovation Labs Hackathon, 6-7.03.2021; Eveniment "Romania's Digital Future - Digital Transformation Opportunities", 25.02.2021; Emerson's Engineering Boot Camp 2021; Workshop online Vitesco Technologies Romania 2021; A working day in Continental Sibiu, 8/9 iunie 2021; Campaing to promote BCR's services dedicated to students, 2021;
- StartupCity Cluj Napoca, with the participation of the European Commissioner for Innovation, Research, Culture, Education and Youth, Mariya Gabriel (2020).

There was support for programs and projects that benefit both students and the University, by:

- Participation in joint local, regional, national and international development projects by increasing the external funds attracted;
- Within the "Entrepreneurial University" program, the SAS operating structure was developed, to support students in the development of entrepreneurial and intrapreneurial approaches, in terms of the business community and entrepreneurial education and training of students for the labor market;
- Carrying out the project Student Entrepreneurial Society - SAS - TUCN Students - Entrepreneurs in the Digital World - FDI CNFIS-FDI-2018-0438;

- Supporting the events of Entrepreneurial Society of TUCN Students: workshops at all TUCN faculties, with the participation of experts from the socio-economic environment; students supported and mentored in their business initiatives; Demo Day - for direct connection of students with investors, in their business ideas, in which, business ideas and prototypes were validated before a jury of entrepreneurs; training of the SAS coordination group to improve the entrepreneurial activity in TUCN and to connect to international entrepreneurship networks; *Entrepreneurial University*, entrepreneurship education and mentoring actions in partnership and collaboration with Junior Achievements; *mini-challenge entrepreneurship* for professors;

- Submission of projects to obtain funding under the POCU, on competition *Innotech Student* (5 projects were submitted, of which one with TUCN responsible and four as partners);

- Collaboration with the National Union of Romanian Employers (UNPR) with the included objective of modernizing the educational process by using modern methods and technologies supported by augmented and virtual reality;

- The “Innovation Labs” program in collaboration with RAF (Romanian American Foundation) and the Transylvania Institute of Technology Foundation, by facilitating a financial mechanism for awarding scholarships to students, in order to continue their project within the program, organized in annual editions;

- *Discover your passion in IT* - DpIT;

- TUCN students benefiting from scholarships *Roberto Rocca Education Program*;

- Nation through education;

- BRD First Tech Challenge Romania;

- *FUTURE - Builds with passion*, a program that integrates students, companies and professors in the development of skills needed in the field of work. The partners of the program were Tenaris Silcotub and Mădălina Hodorog. The program took place in 2019, 10 unique training sessions were organized through experiential education and 40 students and 10 professors benefited from it;

- Starting the project - “*Company month*” by conducting technical webinars for students. In November 2020, a series of webinars organized by Continental Sibiu took place, events attended by over 600 students; the project planning for the continuation in 2021 was achieved.

The actions initiated by by CRMSE to support the Entrepreneurial University program - developing collaborative relationships and facilitating the transfer of knowledge to and from organizations in the socio-economic environment, are:

- „*Innovation Labs Hackathon*” – edition 2021, event organized by TechLounge, Transylvania Institute of Technology in partnership with Orange, Carrefour, BRD, OMV Petrom, ATOS și Romania-American Foundation, as strategic partnership;

- „*Blockathon*”- ul is a contest organized by Spherik Accelerator in cooperation with Cluj Startups, powered by B-hub for Europ, where the participants as teams will propose solutions which contribute to the digitalization of public sector;

- Session for minigrants entrepreneurship ruled in universities, organized by Junior Achievement România, Entrepreneurship University and Romania-American Foundation;

- Participation of TUCN together with Cluj-Napoca City Hall and other partners from Education Cluster in the project „*Innovation and Experiment Foud Cluj - FIX Cluj*”, which support innovation and entrepreneurship ideas;



• Technical University of Cluj Napoca is part of the project “*Innovative European University of Technology (Inno-EUt+)*”, an European Institute of Innovation and Technology (EIT) initiative, of which aim is to increase the entrepreneurship and innovation capacity of a new university alliance, European University of Technology (EUT+);



- „*HealthTech Next Generation*”, organizator Fresh Blood, contest addresses to the persons preocupate by innovation and health;
- „*E-Mental Health Hackathon*”, ua contest addressed to the TUCN students interested by the health field, and entrepreneurs interested in the innovation in the health field, organized by organized by Wolfpack Digital.

The existing dabase continuously developed for the regional eco-system: companies, clusters, NGOs, banks, inter-universities organizations, foundation, development agencies, international networks. So far, the database includes over. Database CRMSE was used as support, for:

- international evaluation of TUCN by Qs Stars Rating System;
- annual organization of Scientific Research, Inventic and Innovation Hall - PRO INVENT;
- organization of the 1st edition of the event TUCN ALUMNI;
- projects “I will be engineer” and „UTC-N2020 Excelence in engineering”, initiated by TUCN;
- TUCN conferences, such as: fi 2019 IEEE 25th International Symposium for Design and Technology.

Mutual insitutional development with organizations of socio-economic environment in national/international for development, as well as internship stages for students and doctoral-students.

Examples as internships offers are published on CRMSE site: <https://crmse.utcluj.ro/index.php/anunturi.html>:

- Project TUCN in cooperation with Robert Bosch, TUCN partener: *Start releases for a successful career* (code of project: 109041), financed by structural funds POCU/90/6.13/6.14 – internships stages for high school students and students in agroalimentar sector, industry and services.

- „*Management of Technical Projects*” - master program organized in partnership of Emerson Company at the Industrial Engineering Faculty, Robotic and Production Management;
- „*Bases of Quantic Information*” - facultative class in partnership with INCDTIM Cluj, at Automatic and Computers Faculty, year of study II;
- Continuation of the project in partnership with Robert Bosch - „Autonomous Driving: Technology, Dynamics and Control” class, 5th edition;
- Transfer of knowledge and technology by equipping of some laboratories: Bosch Laboratory-Industry 4.0 – Simtex Buildin, Muncii B-dul, Sanitary Technic Laboratory – in partnership with Grohe – building of Faculty of Installations Engineering, 21 Decembrie 1989 B-dul, Laboratory of Technology of Installations – sponsored by RIDGID – by smart lighting – sponsored by Signify - Philips.
- Signing with socio-economic environment of more than 100 internship stages in the frame of the project **PAVING** and more than 40 internship stages in the frame of **ANTREDOC**;
- Organizing of study visits; proposals for license themes from companies; prizes awarded to license thesis; classes conducted by experts from economic environment; development of innovative multidisciplinary projects from idea to final product, by knowledge transfer from experts from economic environment to students.



An increased financial dimension has also been achieved by carrying out projects financed from complementary funds, in partnership with the socio-economic environment, as follows:

- through POCU, the TUCN project in partnership with Bosch, “*Entrepreneurial skills and research excellence in doctoral and postdoctoral study programs-ANTREDOC*”; the TUCN project “*Advanced Practice for success in the Engineering career - PAVING*”; the NTT Data project, “*PEX - We practice practical excellence*”; the ENDAVA ROMANIA project in partnership with TUCN, “*Practical learning program for students*”- - **PRACTIC 20-21**.
- Through POC, projects are carried out in partnership with companies, with a research component, through the following competitions:
 - Advanced technologie for intelligent urban electrical vehicles - **URBIVEL**”, of eligible total value of 15.634.286,75 lei, în partnership with Tehnologistic, Porsche Engineering România, ICPE, Belco Avia, NET Brinel, ICPE-IE, Siemens Industry Software, AROBS Transilvania Software, Remarul 16 Februarie, Inovo Finance;
 - „Micro-invertors with high power density and high effectiveness for energy regenerable sources - **MICROINV**”, in partnership with Tehnologistic, Napoca Software, BKD Electronic, Datronix Computer, Hyalcor;
 - *Project Technological Innovative* carried out in partnership with Taparo Company;
 - „Knowledge transfer partnerships aiming to develop integrated circuits designed to increase the energetic efficiency of new generation of vehicles – PartenerIC”, in partnership with Infineon Technologies România;
 - „Integrated development 4.0”, in partnership with Infineon Technologies Romania;
 - „Establishment of Excellence Center in the field of composite material”, in partnership with TAPARO;

- „Forest funicular with hybrid action and energy recovery”, in partnership with IIRUM;
- „Innovative technological models for projection and utilisation of database applications which will assure complete separation of logic model of data by the implementing and running on multiple platforms, including cloud running”, in partnership with CRISOFT;
- „Computational models based on big data and predictive analysis of data for the optimization and automatization of the distribution of the insurance products by platform 24Broker.ro”, in partnership with LIFE IS HARD;
- „Development by Arobs of a new system for testing the central testing units for the vehicles a unui nou sistem de testare unități centrale de control destinate vehiculelor”, in partnership with Arobs Transilvania Software;
- „GREENTOP - Agro-Biodiversity”, in partnership with Indeco Soft.

Through its full collaboration with the socio-economic environment, the Technical University of Cluj-Napoca is an efficient agent of economic growth and social welfare in the region, an active member of regional initiatives aimed at economic and social development in this ecosystem, contributing to their development through direct knowledge transfer, academic excellence correlated with the needs of the socio-economic environment, research as well as entrepreneurial and investment activities.

1.2. Doctoral program in the field of Food Engineering

1.2.1. Short history

The doctoral study program in **FOOD ENGINEERING** will be developed within the Faculty of Sciences of the North University Center of Baia Mare under the coordination of the Doctoral School of IOSUD Technical University of Cluj Napoca (IOSUD-UTCN).

The university education in Baia Mare continues an old and appreciated academic tradition existing on these lands. The appearance in 1748 of the "Superior Mining Inspectorate" in Baia Mare led to the reorganization of the entire mining system. In 1864, the first mining school was established, with a duration of 3 years of study, with the aim of preparing the necessary staff for the organization and management of the mines. This was, for a long time, the only this profile school in Transylvania. In 1937, the Mining School was transformed into the School of Mining Technical Leaders and Chemical-Metallurgists, and in 1945 it became the School of Sub-Engineers, with a duration of 4 years, which, in 1949, moved to Brad, receiving the degree of Institute of Engineers. The preservation of the almost unique ethno-linguistic traditions in this North area of Romania, but also the impetuous development of Baia Mare, requires the establishment of the Pedagogical Institute for 3 years, with 3 faculties: Philology, Mathematics and Natural and Agricultural Sciences in 1961. This was the first step towards the development of the university education in Baia Mare. A few years later, as a recognition of the merits of mining education in the area and of industrial needs, the Baia Mare Institute of Sub-Engineers reappears, initially under the patronage of the Polytechnic Institute of Cluj-Napoca (1969). The rapid evolution of the higher education in Baia Mare was naturally followed by the establishment, in October 1, 1974, of the Institute of Higher Education, with two faculties: Faculty of Pedagogical Education, full-time courses, with 3 specializations: Philology - 4 years, Mathematics - 3 years, Natural and Agricultural Sciences - 3 years and the Faculty of Technical Education, with 4 specializations: Mines, Mining Technological Electromechanics, Non-Ferrous Metallurgy, Civil, Industrial and Agricultural Constructions, preparing sub-engineers with full-time courses - 3 years - and evening classes - 4 years. In October 1, 1984, the Institute of Higher Education in Baia Mare came under the patronage of the Polytechnic Institute of Cluj-Napoca under the name of Institute of Sub-Engineers. In June 1990, the

Institute of Sub-Engineers regained its autonomy and returned to the old name of the Institute of Higher Education in Baia Mare. It was transformed in March 1991, by Government Decision, into the University of Baia Mare, which in 1996 received the name Northern University of Baia Mare. In 2012, the fusion by absorption with the Technical University of Cluj Napoca under the name of the North University Center of Baia Mare (NUCBM) took place ([Annex 1.2.1. Merge documents NUCBM TUCN](#)).

The Department of Chemistry and Biology from the North University Center of Baia mare - Technical University of Cluj-Napoca coordinates within the field of **Food Engineering**:

- **two accredited and RNCIS registered bachelor's degree programs**: *Food Engineering (IPA)* and *Food Control and Expertise (CEPA)* ([Annex 1.2.1. Accreditation RNCIS IPA CEPA](#)).

- **one accredited and RNCIS registered master's degree program** in *Food Science and Safety (SSA)* ([Annex 1.2.1. Accreditation RNCIS SSA](#)).

The establishment within the Technical University of Cluj-Napoca, of the new doctoral field **FOOD ENGINEERING (IPA)** meets the request of students from the licence programs *Food Engineering* and *Food Control and Expertise* and master program *Science and Food Safety*, coordinated by the Department of Chemistry and Biology, to fulfill their studies by achieving the doctoral program in the field of IPA.

The submission of the Evaluation Report for the establishment of the new doctoral program **FOOD ENGINEERING** was approved by the TUCN Senate Decision from 1345/22.04.2021 ([Annex 1.2.1. Decision Senate establishment IPA](#))

https://www.utcluj.ro/media/page_document/260/Buletin_informativ_117_CA.pdf

https://www.utcluj.ro/media/decisions/2021/04/27/H_Senat_nr_1345_Infiintare_domeniu_nou_de_studii_univ_de_doctorat.pdf

<https://iosud.utcluj.ro/hotarari-si-decizii-utcn.html>

Annexes

[Annex 1.2.1. Merge documents NUCBM TUCN](#)

[Annex 1.2.1. Accreditation RNCIS IPA CEPA](#)

[Annex 1.2.1. Accreditation RNCIS SSA](#)

[Annex 1.2.1. Decision Senate establishment IPA](#)

The establishment of new doctoral study program of **Food Engineering** would represent the third level of university studies whose **mission** will be:

- (i) to contribute to the development of highly qualified, competent human resources, capable to integrates into the labor market;
- (ii) to ensure the advanced in the scientific research of the food engineering;
- (iii) strengthening of the food engineering domain in academic environment and society;
- (iv) to transfer the results of research and innovation to the socio-economic environment.

The objectives of the Food Engineering (IPA) doctoral study program derive from its research and professional character:

- Achieving a high level of training in the field of Food Engineering, which should be competitive both at the level of graduates of other similar study programs and at the level of training required by the labor market;
- Promoting the original and interdisciplinary research activity;
- Expand the international visibility of research in the field of Food Engineering;

- Increase the integration of Baia Mare teaching in the field of Food Engineering in European research area;
- Extend the visibility over the professional environment and attraction of economic partners aiming to apply the results of research;
- Increase the TUCN prestige over the academic and international environment.

In addition to the employment opportunities offered by the completion of undergraduate and master's degree programs in the field of Food Engineering (according to RNCIS): <http://www.anc.edu.ro/registru-national-al-calificarilor-din-invatamantul-superior-ncis/>

Food Engineering – license studies:

Code COR: 214514 / Name: food industry engineer

Code COR: 214534 / Name: research engineer in the field of food quality

Code COR: 214516 / Name: project engineer of food

Food Control and Expertise – license studies

Code COR: 214517 / Name: food industry engineer adviser

Code COR: 214519 / Name: speciality inspector in food industry

Code COR: 214533 / Name: researcher in food quality control

Food Science and Safety – master studies

Code COR: 214518 / Name: food industry expert engineer

the completion of the doctoral study program in the **Food Engineering** domain offers to the doctoral students new employment perspectives due to the acquired competencies:

- First degree teacher in pre-university education by equating doctoral studies with first degree teaching (OMENCȘ nr. 5561/2011, art. 42) (Code COR 233001);
- Scientific researcher in the food quality control Code COR: 214533
- Access to higher education with the rank of assistant (Cod COR 231001) or lecturer (Cod COR 231003).

1.2.2. Content of the Food Engineering doctoral program

The curriculum for the doctoral studies in the field of **Food Engineering** extends over 3 years (six semesters). The curriculum has two components: (a) *The training program based on advanced university studies* (PPUA) and (b) *The individual program of scientific research* (PCS). It will be conducted in the basis of Teaching Plan presented in the [Annex B.2.1.1. Curriculum doctorate IPA](#).

It was prepared in accordance with the requirements of the INSTITUTIONAL REGULATION on the organization and development of doctoral studies and postdoctoral programs of advanced research in the Technical University of Cluj-Napoca ([Annex A.1.1.1. Institutional Regulation HSU 123524 .09 . 2020 -Art. 30\(1\), 46, 47\(1-8\), 50\(1,2\), 50\(1,2\), 51\(1,2\), 52\(1,2\)\)](#) available on the IOSUD-UTCN website: <http://iosud.utcluj.ro/regulamente.html>
[http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Sen at_24.09.2020.pdf](http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Sen_at_24.09.2020.pdf)

Within the *Training Program based on advanced university studies*, the doctoral student participates in the first year of the doctoral studies in the activities within the disciplines offered by the doctoral studies. The number of transferable study credits accumulated by the doctoral student during the Training Program based on advanced university studies is 30 ([Annex A.1.1.1. Institutional Regulation HSU](#)

[123524.09.2020 -Art. 34\(1\)](#)). For each discipline attended within the Training Program based on advanced university studies, the doctoral student receives a certificate of participation, issued by the course holder and countersigned by the doctoral supervisor / principal doctoral supervisor. All participation certificates are submitted by the doctoral student at the IOSUD-UTCN secretariat in order to prove the fulfillment of the obligations from the training program based on advanced university studies ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020- Art. 48\(1\)](#)). The study disciplines included in the Training Program based on advanced university studies have analytical programs (subject sheets) in which are specified: the discipline regime, no. of allocated credits, the distribution of hours for the course and practical activities / seminar, the objectives, the concordance between the objectives of the discipline and the objectives of the specialization, the general competences acquired after completing the discipline, the theme of the course and practical works / seminar, the individual study hours of doctoral students, minimum bibliography, grading methods ([Annex B.2.1.1. Courses outlines](#)).

http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Senat_24.09.2020.pdf

Within the *Individual Scientific Research Program*, the Curriculum provides 5 oral presentations to the doctoral supervisor and the steering committee as follows ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020 – Art. 52\(1,2\); Art. 34\(2\)](#)): *A scientific research project (year I, sem. I), 1 progress report in year I (sem. II), two progress reports in year II (sem I and sem II), a progress report in year III (sem. I), each being granted 30 transferable credits. The scientific research project (sem. I, year I) is established by the doctoral student together with the doctoral supervisor and must include the general objective and the specific objectives of the doctoral thesis, research methodology, risk assessment and alternative solutions, estimated schedule of research activities. (Gantt chart) (Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020 - Art. 50 (1,2))*. In support of the *scientific research projects*, a report shall be drawn up recording the main observations and recommendations made by the doctoral supervisor and the members of the steering committee, as well as the fact that the research report was "Admitted" or "Rejected". A copy of the minutes, signed by the doctoral supervisor and the members of the guiding committee who were present, is then submitted to the IOSUD-UTCN9 secretariat ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020-Art. 52\(3\)](#)).

The doctoral university courses are completed in the second semester of the third year with the defense in public meeting of the doctoral thesis in front of the commission for analysis and public defense of the doctoral thesis ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020 -Art. 54 \(1\)](#)). In the view of institutionalization and cooperation with other similar doctoral schools in the country, CSUD and the Doctoral School Council generate the standards for elaboration and evaluation criteria of doctoral theses. The format of the doctoral theses and the recommendations regarding their structure and content are integrated in the "*Guide for the elaboration and evaluation criteria of the doctoral theses*", guide elaborated by CSUD, in accordance with the regulations in force. The doctoral student has the obligation to respect the standard format of the doctoral thesis established within IOSUD-UTCN ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020-Art. 55 \(1-3\)](#)).

The specific activities of the Food Engineering doctoral program ensure that doctoral students acquire ([Annex B.2.1.1. Courses outlines](#)):

Professional competences:

- Concepts related to the authentication, falsification and detection of food counterfeits
- Knowledge the trends in the modern food
- In-deep knowledge in the field of food safety

- Ability to identify, formulate, and solve research problems
- Documentation skills, developing and capitalize in the scientific papers
- Language skills at academic level in international recognized languages that will be used for the documentation and developing the scientific papers
- Acquiring the principles and values of scientific research ethics.

Transversal competences:

- Written and spoken communication skills
- The use of information technology and communication
- Networking and teamwork abilities: amplifying and refining the empathic capacities of interpersonal communication and assuming specific attributions in carrying out group activity in order to deal / resolve individual / group conflicts, as well as optimal time management.
- Knowledge related to risk management in the research activity
- Knowledge related to the use of legislation in the field of intellectual property rights
- Economic, technological and social entrepreneurship abilities.

Annexes

[Annex B.2.1.1. Curriculum doctorate IPA](#)

[Annex B.2.1.1. Courses outlines](#)

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

1.2.3. Academic staff

The activities provided in the Curriculum of the Food Engineering doctoral program will be coordinated by **four academic teachers** (Table 6, [Annex A.1.2.3. Academic staff IPA](#)), from Chemistry-Biology Department from Faculty of Science, Technical University of Cluj Napoca.

Table – 6. Academic staff that will coordinated the activities provided in the Curriculum of Food Engineering doctoral studies

Staff	Habilitation field	Decision document	Affiliation	Annexes
Prof.dr.eng. hab. Mihaly Cozmuța Anca	Food Engineering	Order of Ministry of National Education 3798/04.06.2018	Tenured TUCN Affiliated IOSUD-TUCN	Annex 1.2.3. Certificates Annex 1.2.3. CV Mihaly Cozmuța A Annex 1.2.3. Affiliation Annex 1.2.3. Tenured
Assoc.prof. dr.hab. Peter Anca	Food Engineering	Order of Ministry of National Education 3377/22.03.2018	Tenured TUCN Affiliated IOSUD-TUCN	Annex 1.2.3. Certificates Annex 1.2.3. CV Peter A Annex 1.2.3. Affiliation Annex 1.2.3. Tenured
Associate prof. eng. hab. Giurgiulescu Liviu	Food Engineering	Order of Ministry of National Education 3797/04.06.2018	Tenured TUCN Affiliated IOSUD-TUCN	Annex 1.2.3. Certificates Annex 1.2.3. CV Giurgiulescu L Annex 1.2.3. Affiliation Annex 1.2.3. Tenured
Associate prof. dr. Mihaly Cozmuța Leonard	-	-	Tenured TUCN	Annex 1.2.3. CV Mihaly Cozmuța L Annex 1.2.3. Tenured

Of academic staff, Prof. dr. eng. hab. Anca Mihaly Cozmuța, Conf.dr. hab. Anca Peter and Conf.dr.eng.hab. Liviu Giurgiulescu are habilitated to coordinate doctoral activities in the field of Food Engineering ([Annex 1.2.3. Habilitation certificates](#)). Assoc.prof. dr.eng. Leonard Mihaly Cozmuța does not habilitated to coordinate doctoral studies, but he got training and expertise in the field of *Statistical processing of experimental data*, and he will coordinate within the study program *Statistics applied in the food industry* ([Annex 1.2.3. CV activity Mihaly Cozmuta L](#)).

All staff that will coordinated the activities provided in the Curriculum of the Food Engineering doctoral program are tenured to TUCN, and the doctorate coordinators are affiliated to IOSUD-TUCN ([Annex 1.2.3. Affiliation IOSUD TUCN](#)).

All three academic teachers habilitated in the field of Food Engineering fully meet the minimum standards of the National Council for Attesting the University Titles, Diplomas and Certificates (CNATDCU)- *Commission 14. Engineering of Vegetal and Animal Resources* in force at the time of the assessment (2021), necessary and compulsory for obtaining the attestation of authorization in the field of Food Engineering (OM 6129/2016) ([Annex 1.2.3. Meet minimal standars](#)).

Annexes

[Annex 1.2.3. Academic staff IPA](#)

[Annex 1.2.3. Habilitation certificates](#)

[Annex 1.2.3. CV activity Mihaly Cozmuta A](#)

[Annex 1.2.3. CV activity Peter A](#)

[Annex 1.2.3. CV activity Giurgiulescu L](#)

[Annex 1.2.3. CV activity Mihaly Cozmuta L](#)

[Annex 1.2.3. Affiliation IOSUD TUCN](#)

[Annex 1.2.3. Tenured TUCN](#)

[Annex 1.2.3. Meet minimal standars](#)

1.2.4. Students

UTCN has defined a transparent and rigorous strategy for recruiting and admitting students, respecting the principle of equal opportunities for all candidates, without any discrimination. In accordance with the *Regulation for the Organization of Admission to the doctoral studies in Technical University of Cluj-Napoca* ([Annex A.1.1.1. Calendar admission 2022 detalied- Art. 9](#)), the admission period, registration documents and contest rules are disseminated by at least 6 months before the admission contest, by publishing them on the IOSUD-UTCN's own website both in Romanian and English.

<http://iosud.utcluj.ro/admitere.html>

<http://iosud.utcluj.ro/admitere.en.html>

Both graduates of master's studies and of bachelor's degree or equivalent, issued until the year of graduation of the first bachelor's promotion in accordance with the Law no. 288/2004 on the organization of university studies with subsequent amendments and completions (long-term education) can register ([Annex A.1.1.1 Rules admission doctorate 2022- Art.20](#)).

<https://iosud.utcluj.ro/files/Files/Legilsatie%202021/Regulament%20admitere%20doctorat 2021 CA 2. 02.21.pdf>

Admission to doctoral studies consists of at least two tests held in the front of an admission commission consisting from the doctoral supervisor, who offered the position of the doctoral student for admission and at least two other specialists from the Technical University of Cluj-Napoca who have, at least, the position of associate professor or scientific researcher degree II. The chairman of the admission commission is the doctoral supervisor. The first test consists on the examination of language proficiency for an international language held within the Department of Modern Languages and Communication of UTCN. The admission commissions are proposed by the Doctoral Program Coordination Councils and the Doctoral School Council and are approved by the CSUD director. The second test is the interview in which the level of training and scientific activities/ professional concerns of the candidate, his research skills and the proposed topic for the doctoral thesis are analyzed. Depending on the specific of the program, other tests may be provided in the doctoral admission competition, at the request of doctoral supervisor and with the consent of the Doctoral School Council ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020- Art.29 \(1-5\)](#)).
http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Senat_24.09.2020.pdf

Annexes

[Annex A.1.1.1. Calendar admission 2022 detalied](#)

[Annex A.1.1.1 Rules admission doctorate 2022-](#)

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

1.2.5. Research activity in the field of Food Engineering

The academic staff serving the Food Engineering doctoral program carry out their scientific research activity within the Department of Chemistry and Biology CUNBM-UTCN in accordance with their own Scientific Research Strategy ([Annex 1.2.5. Plan research scientific events](#)) which is included in the Scientific Research Strategy of the Faculty of Sciences and of the Technical University of Cluj-Napoca. The Scientific Research Strategy of the Department of Chemistry and Biology, an integral part of the Research Plan of the Faculty of Sciences, includes the main research directions resulting from the analysis of the current state of research trends and proposals submitted by each research team within the department.

The doctoral program in Food Engineering will have its own scientific research plan, approved by the IOSUD-UTCN management, which will be included in the strategic plan of the Faculty of Sciences, in accordance with the long-term strategy of CUNBM-UTCN on research, approved by the UTCN Senate. The teachers who serve the Food Engineering doctoral program will address research topics being part of the fields of disciplines included in the program curriculum. These are part of the scientific area of the doctoral field and of the disciplines taught in this doctoral program.

The scientific research activity will be carried out within the research centers and specialized laboratories of the department ([Annex A.2.1.1. Laboratories research](#); [Annex A.2.1.1. Laboratories didactic](#)). Their endowment was made both from the university funds and from the research contracts coordinated by the teachers of the department ([Annex A.2.1.1. Research contracts](#), [Annex A.2.1.1. Equipments 5 years](#)).

The research internships will take place at international universities where the Food Engineering teachers have collaboration and/or ERASMUS, CEEPUS projects (Italy, Poland, the Netherlands, Brazil, Norway, Czech Republic, France, Portugal, etc.) and will allow the access of the doctoral students to analysis equipments that does not exist in the endowment of or own laboratories ([Annex A.2.1.1. Agreements mobilities](#)).

The academic staff involved in the Food Engineering doctoral program capitalize the scientific research through publications in specialized journals or publishing houses in the country, recognized by CNCSIS, or abroad, scientific papers presented at sessions, symposia, seminars in the country and / or abroad, etc. contracts with partners from the country or abroad ([Annex 1.2.3. CV activity Mihaly Cozmuta A](#); [Annex 1.2.3. CV activity Peter A](#); [Annex 1.2.3. CV activity Giurgiulescu L](#); [1.2.3. CV activity Mihaly Cozmuta L](#))

The faculty regularly organizes with teachers, researchers and graduates, scientific sessions, symposia, conferences, round tables and communications published in the scientific bulletins listed ISBN, ISSN or in journals dedicated to the organized activity. The Chemistry and Biology Department organizes annually the Student Scientific Communication Session ([Annex 1.2.5. Plan research scientific events](#)) and the selected papers are published in the "Carpathian Journal of Food Science and Technology", a journal edited by the Chemistry and Biology Department (ISSN 2066-6845) indexed Thomson Reuters, Web of Science, Scopus, Index Copernicus, Open J-Gate, Ulrichs Web, CAS, DOAJ, IFIS, EVISA, Editor-in-Chief Assoc. Prof. Dr. Liviu Giurgiulescu, Permanent Editor Assoc. Prof. Dr. Anca Peter. http://chimie-biologie.ubm.ro/carpathian_journal/index.html

However, starting from 2007, the Department of Chemistry and Biology organizes annually the Student Competition of Food Technology – COSTA, where the students from the bachelor and master specializations in Food Engineering participates with products prepared in specialized laboratories. The event is also attended by high school students with a profile in the food industry and students from universities that coordinate specializations, thus contributing to the promotion of specialization. In 2021, this event will take place online under the title COSTA 2021 CONTEST - *Innovative foods*. <http://chimie-biologie.ubm.ro/evenimente.html>

Other events organized within the Department of Chemistry and Biology where the teachers serving the Food Engineering doctoral program are also involved are: "Dear Chemistry" Contest, Intercounty Contest of Biology, Chemistry and Food Industry, scientific seminars organized monthly , student scientific sessions, the student symposium "History of Chemistry", the Symposium "Modern teaching strategies" ([Annex 1.2.5. Plan research scientific events](#)). <http://chimie-biologie.ubm.ro/evenimente.html>

PhD students will participate in the scientific seminars of the Department of Chemistry and Biology when relevant topics for their scientific research will be discussed.

More details about the research activity are discussed in the sections **A.1.3.1**, **A.2.** and **A.3.2.**

Annexes

[Annex 1.2.5. Plan research scientific events](#)

[Annex A.2.1.1. Laboratories research](#)

[Annex A.2.1.1. Laboratories didactic](#)

[Annex A.2.1.1. Research contracts](#)

[Annex A.2.1.1. Equipments 5 years](#)

[Annex A.2.1.1. Agreements mobilities](#)

[Annex 1.2.3. CV activity Mihaly Cozmuta A](#)

[Annex 1.2.3. CV activity Peter A](#)

[Annex 1.2.3. CV activity Giurgiulescu L](#)

[Annex 1.2.3. CV activity Mihaly Cozmuta L](#)

1.2.6. Material base

The Faculty of Sciences disposes adequate spaces for the educational process, laboratories equipped with modern computer technology and a library consisting also in a reading room and a corresponding book fund.

<https://biblioteca.utcluj.ro/prezentare-biblioteca.html>

In the same time, students and teachers have access to the Central Library of the University and the County Library "Petre Dulfu" Maramures.

<https://www.bibliotecamm.ro/>

TUCN-North University Center of Baia Mare owns all the buildings where the didactic and scientific activities take place ([Annex A.2.1.1. Educational spaces CUNBM](#)).

The material base of the Faculty of Science consists of a central three-level building integrated into a complex of university buildings (campus) which also includes the university library, the university cafeteria and the student dormitories ([Annex A.2.1.1. Faculties spaces](#)). The classrooms and seminars are equipped with possibilities to use modern teaching aids: computers, video projectors, etc. ([Annex A.2.1.1. Teaching spaces](#); [Annex A.2.1.1. Laboratories didactic](#); [Annex A.2.1.1. Laboratories research](#); [Annex A.2.1.1. Computers software](#)).

The courses of the Food Engineering doctoral program will take place in rooms that provide through their surfaces between 1.73 and 2.33 sqm / student, in relation to the value required by ARACIS of 1 sqm/student for the course and 1.4 sqm / student for the seminar ([Annex A.2.1.1 Teaching laboratories](#)). The surface of our own laboratories is between 60 and 110 sqm and provides between 4 and 7.33 sqm / student in relation to the value required by ARACIS of 4 sqm / student ([Annex A.2.1.1. Laboratories didactic](#)). The laboratories contain furniture and all the material base necessary for the development of the practical works specific to the disciplines of the Food Engineering doctoral program ([Annex A.2.1.1. Laboratories didactic](#); [Annex A.2.1.1. Laboratories research](#)).

In addition, for the activity of the processing experimental data, designing of the scientific papers and of the progress reports related to the doctoral program, the doctoral students have their own spaces. One of them, Room 10, is located inside the Library of the North Baia Mare University Center from 76 Victoriei Street, on the first floor, with an area of 3.5m / 4m. There are 4 places available with 4 computers to which are added the computers from the reading room inside the university library. The second space for doctoral students is Room 32 inside the Faculty of Sciences, next to the CCESMSSS Research Center - Room 33 ([Annex A.2.1.1. Spaces PhD students](#)).

The North University Center of Baia Mare has social, cultural and sports services for doctoral students: accommodation in their own dormitories, sports and leisure facilities, with efficient activity, organized by internal regulations. The social services offered to students are organized as follows: A complex of three student dormitories with a total accommodation capacity of 564 places; Cafeteria with a capacity of 600 seats; Gym and sports fields.

The doctoral students have at their disposal a sports complex in two locations (76 Victoriei Street and 62 A Victor Babes Street). The sports base has modernized, electrified courts for handball, basketball, volleyball, tennis, football and badminton; 100 m athletics track; jumping and throwing pit; grass field for mini football; gym equipped with fitness equipment and newly built gym.

The library of the North University Center of Baia Mare has 3 sections:

- o Central Library (in the building from 76 Victoriei Street);
- o Journals Library (in the dormitory no. 3, str. Victoriei 76);
- o Technical Library (building E, 62 Dr. Victor Babeş Street).

The Faculty of Sciences of CUNBM has its own library. *The Central Library*, originated in 1961, contains over 220 000 volumes, important collections of books and journals. Currently, the CUNBM library operates in a new space, inaugurated in April 2019, which has a built area of 401,75 sqm and a developed area of 1560,75 sqm and has 100 seats in the reading room. The new space provides to the students and users, optimal study conditions and easy access to the library's collections. The library's collections are organized in the following categories of funds: closed warehouses, which include documents arranged in formats and rooms with free access to the shelf, where the books are organized systematically-alphabetically (by domains). The access to the library collections is made on the basis of the library permit, according to the Regulation of operation and organization of the Library of the Technical University of Cluj-Napoca. Internal readers also benefit from services such as: publishing bibliographies on request, selecting and listing on the electronic support of the titles from the on-line catalog, the interlibrary loan service, at the request of students and teachers. The *Infostandarde* platform ensures access to the complete package of Romanian standards, which is very useful for engineering specializations. The library's publications fund has gradually developed, through book acquisitions, exchange of publications with various universities and institutions, as well as through donations. Today, it is a modern university library, with a collection of over 200,000 volumes of monographic and periodical publications, covering almost all areas of interest. The collection of periodicals is enriched every year by subscriptions to over 30 titles, by internal exchange, with over 28 partners, respectively 90 titles and by external exchange, with over 60 partners, respectively 75 titles. The book fund of Romanian and foreign specialized literature exists in sufficient numbers to fully cover the subjects in the curriculum of the Food Engineering program, of which over 30% represent book titles or university courses that have appeared in the last 5 years (2017-2021). The library has subscriptions to Romanian and foreign publications and periodicals and a rich fund of specialized books necessary for the theoretical and practical training of students in the field of Food Engineering ([Annex A.2.1.1. Books journals databases; Annex A.2.1.1. Journals subscriptions exchanges](#)). <https://biblioteca.utcluj.ro/prezentare-biblioteca.html>

For the Food Engineering program, the Library of the North University Center from Baia Mare owns 7 subscriptions and 13 magazine exchanges for Romanian publications and subscriptions for foreign publications. We mention that the exchanges of specialized journals take place between the journal published by the Department of Chemistry and Biology (*Carpathian Journal of Food Science and Technology*) and journals in the food industry published by institutions in the country and abroad ([Annex A.2.1.1. Journals subscriptions exchanges](#)). The Department of Chemistry and Biology owns a specialized library comprising volumes, specialized journals and a virtual library containing bibliographic material in electronic format, made available free of charge to students ([Annex A.2.1.1. Books journals databases](#)). The access from the university computers to the databases completes the documentation sources of the teachers and students ([Annex A.2.1.1. Books journals databases](#)). At TUCN level, through the ANELIS-PLUS program ([Annex A.2.1.1. ANELIS PLUS](#)), academics and students have access to specialized articles and books through the following databases: Science direct, Springer, Web of Science, Wiley Journals, IEEE / IEL Electronic Library, de Gruyter ebooks, America Institute of Physics Journals, CAB ebooks, Institute of Physics Journals, MathSciNet, Nature Journals, Scopus. Access can be done both on computers within the university and from outside by creating an account on the ENFORMATION website: <http://www.e-nformation.ro/>

Annexes

[Annex A.2.1.1. Educational spaces CUNBM](#)

[Annex A.2.1.1. Faculties spaces](#)

[Annex A.2.1.1. Teaching spaces](#)

[Annex A.2.1.1. Laboratories didactic](#)

[Annex A.2.1.1. Laboratories research](#)

[Annex A.2.1.1. Computers software](#)

[Annex A.2.1.1. Spaces PhD students](#)

[Annex A.2.1.1. Books journals databases](#)

[Annex A.2.1.1. Journals subscriptions exchanges](#)

[Annex A.2.1.1. ANELIS PLUS](#)

1.3. The internal quality assurance system at the level of doctoral domains within the Doctoral School of IOSUD-UTCN

1.3.1. Objective and architecture of the internal quality assurance system

The **objective** of IOSUD-TUCN Doctoral School is to organize and develop the activity of doctoral education and in-depth scientific research in accredited doctoral fields, at national and international standards, in the context of interaction with the economic, social and academic environment at local, national or international level by:

- a) providing doctoral study programs in collaboration with the faculties, respectively the Doctoral Program Coordination Councils;
- b) development and application of a quality management system in order to permanently improve the quality of doctoral programs;
- c) development of procedure required for the assessing of doctoral university study programs to ensure that they correspond to level 8 qualification according to the *National Qualifications Framework*.
https://iosud.utcluj.ro/files/Files/Legislatie%202021/Procedura%20asigurarea%20indeplinirii%20calificarii%20nivel%208_11.05.21.pdf

The **architecture of the quality assurance system** for doctoral studies involve the following main stakeholders and areas of expertise:

- **Council for doctoral studies**, responsible for strategic and decision-making processes in accordance with IOSUD-TUCN strategic plans;
- **TUCN doctoral school**, responsible for the management and administrative processes necessary for the successful initiation, development and completion of doctoral studies;
- **PhD supervisors**, responsible for the main processes of guiding doctoral students and doctoral scientific research, including good investigative practices, research methodologies, dissemination of results and academic ethics;
- **PhD students**, responsible for accomplishing the contractual obligations and for implementing the Advanced University Studies Training Program (PPUA) and the PCS Individual Scientific Research Program, with a view to the transfer of skills and research results to the socio-economic environment;
- **Bureau of Ethics and Academic Integrity (BEIA)** was established within IOSUD-TUCN by Senate Decision no. 1407/28.10.2021 ([Annex 1.1.5. H. Senate nr. 1407 Establish BEIA](#)), in accordance with the provisions of the **Order of the Ministry of Education no. 5255 /10.09.2021** regarding the verification of university ethics and deontology in the elaboration of doctoral theses from 1990-2016. The bureau is subordinate to CSUD and has responsibilities for digitizing and verifying all doctoral theses, as well as training trainers in ethics and integrity, responsibilities that include the

operation of anti-plagiarism software. In support of the activity of verifying doctoral theses from 1990-2016, the **Procedure for verifying the observance of university ethics and deontology in the laboration of doctoral theses (period 1990-2016) within IOSUD - UTCN** was developed ([Annex 1.1.5. Thesis verification procedure CA 19 .10.2021](#)) and the **Strategy for preventing and combating the phenomenon of plagiarism in the Technical University of Cluj-Napoca** ([Annex A.1.1.1. Strategy TUCN plagiarism- CA](#)). The process of scanning and digitizing doctoral theses started in November 2021.

<https://www.utcluj.ro/media/decisions/2021/10/29/H. Senat nr. 1407 Infiintare Birou BEIA .pdf>
<https://iosud.utcluj.ro/files/Files/EN-Files/Legislatie/Strategia UTCN plagiat%20-%20CA.pdf>
<https://iosud.utcluj.ro/files/Files/Legilsatie%202021/Procedura%20verificare%20teze CA 19.10.2021.pdf>

- **Related structures within TUCN** (Vice-Rectorate for Scientific Research and IT Infrastructure, Vice-Rectorate for International Relations, Department for the Management of Research, Development and Innovation (DMCDI), International Relation Office (BRI), faculties, Coordination councils of doctoral programs, Administrative Services etc.), responsible for the support processes required to the carrying out of PhD students in good conditions, from the academic, logistic and social perspective.

For each of these actors, a framework for operation and performance is defined in accordance with the legislation and regulations in force and with the IOSUD-TUCN strategy on quality assurance. The primary regulations, which refer to direct activities carried out by IOSUD and the Doctoral School, are permanently available to doctoral students and the interested public on the IOSUD-TUCN website (<http://iosud.utcluj.ro>), and the direct regulations related to the activity within each doctoral study agreement are established/agreed by each doctoral supervisor. The administrative and support functions dedicated to doctoral students are available through the specialized structures of the Technical University of Cluj-Napoca. The doctoral school has a specialized Secretariat that facilitates the development of doctoral study programs for both doctoral students and doctoral supervisors.
<http://iosud.utcluj.ro>

1.3.2. Quality assurance policies and defining of procedures, beneficiaries and their responsibilities

The main mechanisms implemented for ensuring, evaluating and improving the quality of doctoral studies within IOSUD-TUCN are mentioned below:

- **Internal and external assessment:** Assuring, controlling and improving the quality of doctoral studies is achieved by implementing internal and external evaluation activities on the scientific, strategic and administrative dimensions. The internal evaluation of the scientific activity is annually achieved by the SIMAC system used for evaluation by all academic staff. PhD supervisors and PhD students have accounts in this system, and the reported results are audited internally through DMCDI. External scientific evaluation is carried out at the level of project proposals and publications, by the authorities responsible for these competitions or events. From a strategic and administrative point of view, the activity of the Doctoral School as well as the decision-making needs are discussed in the CSUD, the Bureau of the Board of Directors (BCA), the Board of Directors (CA) and the University Senate. Externally, these areas are subject to evaluation according to the legislation, namely through public reports of the CSUD director, respectively through the new accreditation process of doctoral schools. The research activities carried out through the doctoral study programs and the related managerial ones are also the object of internal or external audit missions (Court of Accounts, Ministry of National Education).

- **Corrective and prevention actions:** At the IOSUD-TUCN level, the communication, analysis and decision-making processes necessary for a complete three-phase improvement mechanism are implemented: corrections introduced in time to reduce or eliminate the effects of problems, corrective

actions taken based on a detailed analysis to eliminate the causes of deficiencies reported internally (doctoral supervisors, doctoral students) or externally (CNATDCU) as well as preventive actions and systemic improvements included in the strategic plans at institutional or doctoral school level meant to increase the quality of long-term doctoral studies.

- **Risk management:** At the CSUD level and in the doctoral fields, regular meetings take place in which the main risks identified by the doctoral supervisors and by the doctoral students regarding the good development of the studies are analyzed. Scientific, legal, economic and social aspects are taken into account, including the operation of the research infrastructure and the provision of appropriate study conditions, for which appropriate mitigation or elimination measures are proposed.

- **Benchmarking:** This mechanism for comparing performances with similar actors from the country or abroad is implemented both at the level of IOSUD-TUCN through the contribution of CSUD members, and at the level of doctoral studies. Both the scientific component and the administration of doctoral studies are targeted, and good practices and successful solutions in the field are analyzed for adequacy to the situation in TUCN. Periodically, there are meetings and discussions with counterparts (Doctoral School management, PhD supervisors, PhD students) that contribute to the development of mechanisms to stimulate excellence.

- **Lifelong learning:** Doctoral studies are a basic element of the strategy of Technical University of Cluj-Napoca regarding the training of high level specialists capable and interested in continuing their professional development during their career. The role of researchers in both the public and private sectors is to contribute to the advancement of knowledge and its transformation into products and technologies useful to society, and the foundations of this mental and behavioral construction are laid during doctoral studies by developing creativity, subject and meticulousness, as well as research skills at the level of doctoral students.

- **The role of peer review:** Success in research is strictly related to critical thinking and the ability to continuously improve the work already done. This mechanism is implemented in the fields of doctoral studies within IOSUD-TUCN by conducting large-scale peer review activities within research teams, by supporting research reports and by feedback mechanisms from the steering committee, through continuous monitoring by doctoral supervisors, through strategic performance-oriented approaches at the level of the Doctoral School, as well as externally, through the evaluation of project proposals and publications by specialists from the country and abroad.

PDCA (Plan-Do-Check-Act) cycle: The quality assurance function at IOSUD-TUCN level is structured on the four fundamental steps of the PDCA (Plan-Achieve-Verify-Improve) improvement cycle. Approaches, actions and projects are discussed in a broad and transparent framework, put into practice with the help of the human and material resources of the university, and then the results are measured and critically analyzed to determine the necessary corrections and opportunities for improvement. These steps are performed at all relevant levels, from the doctoral training program of each doctoral student, to the level of research teams, to that of doctoral fields and, finally, to the level of IOSUD.

1.3.3. Participation of staff, doctoral-students and external parts interested in the quality assure process

The quality of undergraduate, master's and doctoral studies and research and community service activities are at the heart of the strategic concerns of the Technical University of Cluj-Napoca, as assumed in the Strategic Plan 2020-2024 ([Annex C.1.1.1.Strategic Plan TUCN 2020 2024](https://www.utcluj.ro/media/decisions/2020/10/26/Plan_Strategic_UTCN.pdf)).

IOSUD-UTCN owns reliable structures, strategies and procedures for monitoring and ensuring the quality of activities within doctoral studies:

- *The Commission for Quality Assessment and Assurance (CEAC)*, which monitors and coordinates the implementation of the quality function at institutional level;

<https://dac.utcluj.ro/CEAC.html>

- *Office for Quality Assurance*, responsible for coordinating the quality assurance process at the educational level and assisting management in making strategic decisions regarding quality;

<https://dac.utcluj.ro/>

- *Quality managers* at the level of faculties and Doctoral School, responsible for implementation.

Each of these roles operates in accordance with approved organizational and operational regulations and is

based on the TUCN Quality Assurance Code. Within IOSUD, the attributions regarding the quality are accomplished by the Director of CSUD.

<https://www.utcluj.ro/universitatea/despre/informatii-publice/programe-si-strategii/>

https://www.utcluj.ro/media/decisions/2020/10/26/Plan_Strategic_UTCN.pdf

- *The concern for quality assurance in doctoral fields* is expressed from the admission to doctoral studies. In accordance with the Regulation on the organization of admission to the cycle of doctoral studies at the Technical University of Cluj – Napoca ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020- Art. 27](#)) *the admission to doctoral study programs is based on selection criteria that include: the academic, research and professional performance of the candidates, their interest in scientific or artistic / sports research, publications in the field and a research topic proposal.* Once admitted, the doctoral student will be guided by a commission consisting of 3 other teachers or researchers from UTCN who have the title of doctor or at least the position of head of works, university lecturer or scientific researcher grade III and who have skills in thesis topic ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020– Art. 32](#)). The commission will verify / guide / correct / support the acquisition of knowledge, skills, responsibility and autonomy by doctoral students by analyzing the scientific research project, progress reports and their minutes ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020 – Section 3.3. – Guiding f doctoral studies](#)). The commission meets at least once every 6 months at the request of the doctoral student or the doctoral supervisor. After each meeting, the commission will draw up a report in which the progress made by the doctoral student will be recorded, as well as the recommendations of the commission. In addition to the guidance during the doctoral program for the development of the doctoral thesis, the doctoral supervisor and the members of the guidance commission will help doctoral students to integrate into the scientific community: support for writing scientific articles, presentations for scientific sessions, symposia. Moreover, the PhD students in the field of Food Engineering will participate in the scientific seminars of the Department of Chemistry-Biology when topics relevant to their scientific research are being discussed and the doctoral coordinator-doctoral student meetings will take place weekly.

- *Respecting the quality standards and professional ethics*, the originality of the content of the doctoral thesis is the responsibility of both the doctoral student and the doctoral supervisor ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020– Art. 54 \(6\), 57\(4\)](#)).

- The IOSUD-TUCN doctoral school is subject to *external evaluation* every 5 years based on a system of criteria and a methodology established by order of the Minister of Education and Research ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020– Art. 74](#)).

- *The doctoral supervisors are evaluated* once every 5 years, focusing mainly on aspects related to the quality of the scientific results of the group led by the doctoral supervisor, mainly the impact and relevance of the scientific activity of this group at international and national level in specific Romanian

fields and the results of the evaluation are available for the public

([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020 – Art. 75](#)).

•The IOSUD-TUCN doctoral school, *the doctoral supervisors and the doctoral students undergo periodically, at dates established by CSUD, some internal evaluation processes based on some evaluation procedures elaborated by CSUD* ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020– Art. 76](#); [Annex C.1.1.1. Metodology selfevaluation Doctoral School TUCN 28.01.2021](#)). The doctoral domains contribute by providing information on the scientific activity of the doctoral supervisors, the infrastructure, the existing logistics at the level of the doctoral school and proposals on completing the necessary for the good development of the activity. Periodic self-assessment of IOSUD-TUCN aims to identify and quantify the degree of fulfillment of the following objectives ([Annex C.1.1.1. Metodology Selfevaluation IOSUD TUCN 28.01.2021– Art. 7](#)):

a) compliance at the institutional level with legal requirements and good practices regarding the organization and conduct of doctoral studies;

b) evaluation of aspects related to human resources, research activity, material base, etc. at the level of IOSUD-UTCN and the UTCN doctoral school;

c) qualitative and quantitative evaluation of the research results obtained at the level of UTCN doctoral school, of the degree of visibility, recognition, professional prestige of doctoral supervisors and doctoral students;

d) compliance with quality management procedures, professional ethics and institutional transparency at the level of IOSUD-TUCN, etc.

[Annex C.1.1.1. Metodology Selfevaluation IOSUD TUCN 28.01.2021](#) (in Annex 1) displays SYSTEM OF CRITERIA, STANDARDS AND PERFORMANCE INDICATORS USED IN THE SELF-ASSESSMENT OF THE UTCN AND IOSUD - UTCN DOCTORAL SCHOOL according to O.M. 3200/2020 published in M.O. Part I, nr. 132 from 19.02.2020.

- *The content of the doctoral study programs is evaluated periodically, at 5 years, in order to ensure the continuity of the fulfillment of the Qualification level 8 according to the National Qualifications Framework* ([Annex C.1.1.1. Procedure qualification level 8 11.05.21](#)).

- At the level of the fields within the UTCN/IOSUD Doctoral School, updated variants of the *METHODOLOGY for self-evaluation of the UTCN Doctoral School* activity have been implemented.. The last evaluation process took place in 2021 and also involved the completion by the doctoral supervisors and doctoral students of some self-evaluation form. The results were presented publicly in the form of a report ([Annex C.1.1.1.Report self evaluation 2021](#)). Details on the conduct of the evaluation process are provided in *Section C. Quality management* of this internal evaluation report.

1.3.4. The interaction between the quality assurance system and university management

In accordance with the Law on National Education (Law 1/2011), with subsequent amendments and completions, the Code of doctoral studies (GD 681/2011), with subsequent amendments and completions and with the *Institutional Regulation on the organization and conduct of doctoral studies and of the postdoctoral programs of advanced research in the Technical University of Cluj-Napoca* ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)), updated, approved by the Decision of the University Senate (HSU) no. 1237 of 24.09.2020 ([Annex A.1.1.1. H. Senate nr. 1237 Update Habilitation Rule](#), [Annex 1.1.2. H. Senate no. 856 reorganization doctoral schools](#)), starting with 05.12.2017, IOSUD-UTCN was organized according to the organizational chart shown in

the figure 3.

The architecture of doctoral studies is presented in the [Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020 – Chapter 2](#). In IOSUD-TUCN, doctoral studies are organized in a doctoral school accredited or provisionally authorized in accordance with the legal provisions ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020– Art. 7\(1\)](#)).

The activity within the university doctoral studies is managed by the Council for Doctoral Studies (CSUD), which is headed by the director of CSUD. The position of director of CSUD is assimilated with that of vice-rector, in accordance with the legal provisions, and the person occupying it receives by right the responsibility and authority related to the mentioned position ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020– Art. 10\(1\)](#)).

The doctoral school is run by a Doctoral School Director and the Doctoral School Board. The Director of the Doctoral school is assimilated to the Director of the department. The Doctoral School Council is assimilated to the Department council ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020– Art. 19\(1\)](#)).

The Doctoral Program Coordination Councils are structures that manage doctoral studies and doctoral students at the level of doctoral fields ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020– Art. 22](#)).

The attributions of each structure are presented in details in the [Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020 – Chapter 2](#).

1.3.5. Transparency and access to information specific to the internal quality assurance system for internal and external beneficiaries

The methodologies, regulations and procedures governing the doctoral activity, as well as all information of public interest are brought to the attention of community members and interested persons through the web page of the IOSUD-UTCN Doctoral School where are displayed information on: IOSUD-UTCN structure; Legislation underlying doctoral studies at the level of the doctoral school and the quality assurance system; List of doctoral supervisors with contact details and their research fields; Doctoral program coordination councils; Application forms for enrollment at UTCN Doctoral School, withdrawal of doctoral supervisor from UTCN Doctoral School, withdrawal of doctoral supervisor affiliation from UTCN Doctoral School; Aspects related to the doctorate: legislation, admission, doctoral internship, defense of the doctoral thesis; PhD theses, doctoral-international students, co-supervised doctoral theses, doctoral theses; Aspects related to the Postdoctoral activity; Habilitation procedure; Confirmation orders; IOSUD-UTCN conferences.

<https://iosud.utcluj.ro/structura-139.html>

The results of the internal evaluation of the quality of education in UTCN are published in the form of the Quality Assessment Office Reports or the Rector's Reports ([Annex 1.3.5. Report Rector 2021](#)).

<https://dac.utcluj.ro/CEAC.html>

<https://www.utcluj.ro/universitatea/raportul-rectorului/>

https://www.utcluj.ro/media/page_document/279/raport_rector_2021.pdf

1.3.6. Efficiency of internal quality assurance procedures and structures and their impact on doctoral study activities

The Report resulting from the self-assessment of doctoral fields and doctoral supervisors is subject to debate in the CSUD, presented in the UTCN Board of Directors and the University Senate ([Annex C.1.1.1. Metodology Selfevaluation IOSUD TUCN 28.01.2021- Art. 11](#)).

The institutional component of the Report is elaborated by the CSUD director, in collaboration with the CSUD members, the IOSUD-UTCN secretariat and the support services of the Technical University of Cluj-Napoca. The specific component on doctoral fields / UTCN doctoral school is elaborated by the Director of the UTCN Doctoral School, in collaboration with the coordinators of the doctoral program councils, under the coordination of the CSUD director.

The efficiency of internal quality assurance procedures and structures is proven by the large number of approved doctoral theses, articles published in ISI-rated journals and citations. At the time of the report, there are no fraud claims related to doctoral theses or doctoral theses rejected without the right to remake at the level of the IOSUD-TUCN Doctoral School.

In addition, we can mention the QS Stars certification (4 stars out of 5 possible - Figure 12) obtained in 2019 and maintained in 2021 by UTCN which attests to the internationally recognized excellence.

1.3.7. Application of information released by the internal quality assurance system as a tool for quality management and improvement of education and other activities.

The results of the evaluations are the basis for the continuous improvement of the institutional framework for the development of doctoral studies. Thus, the information taken from the Self-Assessment Reports is analyzed and used to continuously improve the quality of doctoral studies in terms of:

- Develop strategies, policies, and objectives for the quality implementation system;
- Developing a culture and environment based on performance, ethics and academic integrity;
- Continuous monitoring and evaluation of quality in order to correlate student-centered education with the requirements of economic partners and the development strategy of the university.

1.3.8. Monitoring, evaluation and continuous development of the internal quality assurance system

The continuous development of the quality assurance system is a priority for the Doctoral School within IOSUD-UTCN. Based on the institutional strategy, and the feedback of doctoral supervisors and doctoral students, methodologies, regulations and other documents specific to doctoral studies are reviewed periodically. The revised forms are subject to the approval of management structures: CSUD, CA, Senate and implemented in the activity future of IOSUD-UTCN.

Annexes

[Annex C.1.1.1. Strategic Plan TUCN 2020 2024](#)
[Annex A.1.1.1. A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)
[Annex C.1.1.1. Metodology selfevaluation Doctoral School TUCN 28.01.2021](#)
[Annex C.1.1.1. Metodology Selfevaluation IOSUD TUCN 28.01.2021](#)
[Annex C.1.1.1. Procedure qualification level 8 11.05.21](#)
[Annex C.1.1.1. Report self evaluation 2021](#)
[Annex 1.1.3. H. Senate nr. 1237 Update Rules habilitation](#)
[Annex 1.1.2. H. Senate no. 856 reorganization doctoral schools](#)
[Annex 1.3.5. Report Rector 2021](#)

2.DOMAINS, CRITERIA, STANDARDS AND PERFORMANCE INDICATORS

A.INSTITUTIONAL CAPACITY

A.1.The administrative, managerial institutional structures and the financial resources

A.1.1. The institution organizing doctoral studies (IOSUD) has implemented the effective functioning mechanisms provided for in the specific legislation on the organization of doctoral studies.

A.1.1.1. The existence of specific regulations and their application at the level of the Doctoral School of the respective university doctoral study domain:

(a) The internal regulation of the Doctoral School

Activity of doctoral studies within IOSUD-TUCN is carried out in accordance with the national legislation and the internal legislation, approved in the meetings of the UTCN Senate available on the section Regulamente on the web page of IOSUD-TUCN:

<http://iosud.utcluj.ro/regulamente.html>

The way of organizing and carrying out the activities of doctoral students are stipulated on **INSTITUTIONAL REGULATION on the organization and conduct of doctoral studies and advanced research post-doctoral programmes at the Technical University of Cluj-Napoca (TUCN)**. Regulation was adopted first time by the decision of the University Senate No. 268 from 20 June 2014 and updated periodically by University Senate No.770 from 25 May 2017, 901 from 23 March 2019, 1136 from 23 March 2020, 1187 from 4 June 2020, 1235 from 24 September 2020. To the Institutional Regulation is added the **Regulation of Doctoral School of TUCN** approved in 26.03.20218 and updated and approved in 23.01.2019.

<http://iosud.utcluj.ro/regulamente.html>

In [Annex 1.1.6. Approved regulations methodologies decisions](#) are included the regulations and procedures based on the activity IOSUD-TUCN is conducted available on the IOSUD-TUCN web page:

<http://iosud.utcluj.ro/regulamente.html>

[http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Sen at_24.09.2020.pdf](http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Sen_at_24.09.2020.pdf)

[http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS UD_23.01.19.pdf](http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf)

Annexes

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

[Annex A.1.1.1. Regulation Doctoral School TUCN](#)

[Annex 1.1.6. Approved regulations methodologies decisions](#)

b) the Methodology for conducting elections for the position of director of the Council of doctoral school (CSD), as well as elections by the students of their representative in CSD and the evidence of their conduct

In 2014, through **Order 787/13.11.2014** the directors of the doctoral schools from that date in TUCN were appointed. Other documents that came in addition were **Order 1079/22.12.2015** and **Decision no. 283/15.11.2016**.

https://www.utcluj.ro/media/page_document/141/Numire_directori_scoli_doctorale_2014.PDF

https://www.utcluj.ro/media/page_document/141/Ordin_numire_director_9brCo7T.PDF

https://www.utcluj.ro/media/page_document/141/Decizie_numire_directori_2016.pdf

By the Decision 31613/5.12.2017 (Senate Decision no. 856 of 15.12.2017) it was proposed to reorganize the doctoral schools within TUCN into a single doctoral school, called the TUCN Doctoral School and to establish doctoral program coordination councils. The TUCN Doctoral School currently has 10 subordinate councils for coordinating doctoral programs, related to the 14 fields of doctoral studies:

- 1.Coordinating Council of the doctoral programs Architecture and Urban Planning (Architecture field)
 - 2.Coordinating Council of the doctoral programs Automation and Computers (fields of Systems Engineering and Computers and information technology)
 - 3.Coordinating Council of doctoral programs in Constructions and installations (field of Civil engineering and installations)
 - 4.Coordinating Council of doctoral programs in Electronics, Telecommunications and Information Technology (field of Electronic Engineering, Telecommunications and Information Technology)
 - 5.Coordinating Council for doctoral programs in Materials and Environmental Engineering (Materials Engineering and Environmental Engineering fields)
 - 6.Coordinating Council of doctoral programs in Electrical Engineering (field of Electrical Engineering)
 - 7.Coordinating Council of doctoral programs in Industrial Engineering and Management (fields of Industrial Engineering and Engineering and Management)
 - 8.Coordinating Council of doctoral programs in Mechanical Engineering and Mechatronics (field of Mechanical Engineering)
 - 9.Coordinating Council of doctoral programs in Applied Sciences (field of Mathematics)
 - 10.Coordinating Council of doctoral programs in Humanities (fields of Philology and Philosophy)
- https://www.utcluj.ro/media/decisions/2017/12/21/H. Senat_nr. 856_reorganizare_scoli_doctorale.pdf

The **Coordination Councils of the doctoral programmes** are structures that manage the doctoral studies and the PhD students at the level of the doctoral fields. The Coordination Councils are subordinated to the Doctoral School of the UTCN, and their setting up is approved by the Administration Council Board of the UTCN and by the UTCN Senate upon the proposal of the CSUD and the Doctoral School. The Coordination Councils of the doctoral programmes are organised according to doctoral fields, at the level of the faculty/faculties which supervise those doctoral fields. The doctoral research activity is integrated into the teaching and research activity of the faculty/faculties. Consequently, the faculty/faculties take responsibility and authority and allocate the necessary resources. In the UTCN doctoral school, doctoral programmes can be organised in collaboration or separately within each faculty that manages certain fields. Each faculty takes responsibility for its contribution and reports the performance of its PhD supervisors, PhD students and

of the resources it puts at their disposal. The Coordination Council of the doctoral programmes is led by a coordinator and by the members of the Council. The structure and the number of members of the Coordination Council are established by the CSUD. The number of the members of the Coordination Council within the IOSUD-UTCN is set to maximum 5. The Coordination Council includes 3 PhD supervisors from the corresponding fields and 2 PhD students. The members of the Coordination Council are university teaching or research staff members, who must have the right to supervise PhD theses, nationally or internationally, who must have a remarkable scientific activity, as well as rich experience in the doctoral activity. The members of the Coordination Council are selected according to the methodology for the organisation and appointment of the doctoral school management within the IOSUD-UTCN. The mandate of the Coordination Council is of 5 years. The PhD students who are members of the Coordination Council and who finish their doctoral studies while their mandate is still active lose the capacity of members in the Council on the date when they publicly defend their theses. To occupy vacant seats in the Coordination Council by-elections are organised, and the mandate of the newly selected member shall cease upon the expiry of the mandate of the Coordination Council ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020– Art. 22](#)).

http://iosud.utcluj.ro/files/Legislatie/Regulamente-mai-iunie%202020/REGULAMENT_Institutional_Doctorat_mai%202020.pdf

According to the [Art. 19](#) from *INSTITUTIONAL REGULATION on the organisation and conduct of doctoral studies and advanced research post-doctoral programmes at the Technical University of Cluj Napoca (TUCN)* ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)) the Doctoral School is run by the *Director of Doctoral School and Doctoral School Council*.

The **Director of the doctoral school** is assimilated to the head of department (Art. 19(1) – [Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)). The Director of the doctoral school is a lawful member of the Doctoral School Council ([Art. 19\(3\) – Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)). The Director of the doctoral school is appointed based on the methodology regarding the organization of the elections and the appointment of the doctoral school management, approved by the University Senate ([Art. 19\(2\) – Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)). The appointment integrates the consultation of the PhD supervisors from the doctoral school.

The **Doctoral School Council** is assimilated to the Council of the department and is elected for five years ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020– Art. 19\(8\)](#)). The structure and the number of the members of the Council of each Doctoral School within the IOSUD-TUCN are established by the CSUD in compliance with the legal regulations in force. The number of members of the Doctoral School Council within the IOSUD-TUCN is limited to seven: 3 PhD supervisors from the doctoral school, 2 PhD students and 2 members from outside the doctoral school selected from those scientific personalities whose scientific activity has significant international recognition and/or personalities from the relevant industrial and socio-economic sectors ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020 – Art. 7](#)). **The members of the Doctoral School Council** are selected according to the methodology for the organisation of elections and appointment of the doctoral school management within the IOSUD-TUCN (Art. 19 – [Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)).

The Director of Doctoral School runs the Doctoral School Council (Art. 4 - [Annex A.1.1.1. Methodology elections doctoral school TUCN, Annex A.1.1.1. HCA 279 4.12.2018 Component CSD, Annex A.1.1.1. Decision 150 4.06.2019 Component CSD; Annex A.1.1.1. Decision 387 5.12.19 Component DSC, Annex A.1.1.1. Decision 299 03062020 Component DSC, Annex A.1.1.1. Decision 502 01102020 Prolongation mandate DS](#)). http://iosud.utcluj.ro/files/Files/HCA_279%20din%204.12.2018_Componenta_CSD.pdf

http://iosud.utcluj.ro/files/Files/Decizia_150%20din%204.06.2019_Componenta_CSD.pdf
http://iosud.utcluj.ro/files/Files/Decizia_387_din_5.12.19_Componenta_Consiliul_Scolii_doctorale.pdf
http://iosud.utcluj.ro/files/Files/Decizia_nr_299_din_03062020_privind_componenta_Consiliului_Scolii_Doctorale_UTCN.pdf
http://iosud.utcluj.ro/files/Files/Structura/Decizia_502_din_01102020_Prelungire_mandate_Scoala_doctorala.pdf

The student associations or student representatives, as the case may be, organize elections among the doctoral students, for positions in CSUD, through universal, direct and secret vote, all the doctoral students having the right to vote or to be elected. The methodology does not provide barriers/restrictions for the right of doctoral students to elect and be elected. The representative/representatives of the doctoral students must meet the condition of having the quality of doctoral student at the date of election. The persons are elected by secret and direct vote of the enrolled doctoral students.

Doctoral students members of the Doctoral School Council who complete their doctoral studies during the Council's term of office lose their membership of the Council on the date of the public defense of the doctoral thesis. For the filling of vacancies within the Doctoral School Council, partial elections are organized, and the mandate of the new member ends at the expiration of the mandate of the Doctoral School Council ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)– Art.19(1-11)).

http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Senat_24.09.2020.pdf

The last election for the management structures from IOSUD-TUCN was organized in 2020. As result, the new structures were nominated by the decisions displayed on IOSDU site: <http://iosud.utcluj.ro/structura-139.html>

Within IOSUD-TUCN, online elections were organized, on Microsoft Teams, for the representatives of doctoral students at Doctoral School level and Councils for the coordination of doctoral programs level, in October 2020. The relevant documentation regarding the elections organized in 2020 for the selection and designation of the management structures that deal with the organization of doctoral studies in TUCN has been posted on the website of the Technical University:

<https://www.utcluj.ro/alegeri/2020/iosud/>

- Methodology for organizing elections and appointing the management of the Councils for Doctoral Studies (CSUD) within IOSUD-TUCN, was adopted by Decision of the University Senate number 1022/31.01.2019 ([Annex A.1.1.1. Methodology elections doctoral school TUCN](#); [Annex A.1.1.1. H. Senate 1023 Completions Methodology elections DS](#)).

http://iosud.utcluj.ro/files/Files/Metodologie%20alegeri%20Scoala%20doctorala%20UTCN_f.pdf

https://www.utcluj.ro/media/decisions/2019/02/07/Metodologia_alegeri_la_Scoala_Doctorala_UTCN.pdf

- Methodology for organizing elections and appointing the members in the Council for Doctoral Studies (CSUD) within IOSUD-TUCN ([Annex A.1.1.1. Methodology election CSUD f](#)). http://iosud.utcluj.ro/files/Files/Metodologie%20alegeri%20CSUD_f.pdf

- INSTITUTIONAL REGULATION on the organisation and conduct of doctoral studies and advanced research post-doctoral programmes at the Technical University of Cluj Napoca ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#), [Annex A.1.1.1. H. Senate 1187 Update Institutional Regulation](#)).

https://www.utcluj.ro/media/decisions/2020/06/12/H. Senat_nr_1187_Actualizare_Regulament_Institutional.pdf

Rector's Order no. 498 of 30.09.2020 ([Annex A.1.1.1. Order 498 30.09.2020](#)) contains the calendar of elections for the selection and designation of management structures that deal with the organization of doctoral studies at the Technical University of Cluj-Napoca.
<http://iosud.utcluj.ro/files/Files/Alegeri%202020/Ordin%20498%20din%2030.09.2020.pdf>

Eligibility conditions were found in **Rector's Order no. 503 of 1.10.2020** announcing the organization of elections at CSUD level (art. 3, point 3) ([Annex A.1.1.1. Order 503 1.10.2020](#)).
<http://iosud.utcluj.ro/files/Files/Alegeri%202020/Ordin%20503%20din%201.10.2020.pdf>

The list of candidate doctoral students for the positions of members of the **Doctoral School Council, CSUD** and the **Doctoral Program Coordination Councils** was also displayed on the site, according to the provisions of the Election Methodology.

<https://www.utcluj.ro/alegeri/2020/iosud/>

Eligibility conditions were found in **Rector's Order no. 503 of 1.10.2020** ([Annex A.1.1.1. Order 503 1.10.2020](#)) announcing the organization of elections at CSUD level (art. 3, point 3). The same order also specifies what the application file must contain (arts. 5 and 10.).
http://iosud.utcluj.ro/files/Files/Alegeri%202020/Data%20si%20ora-alegeri-IOSUD-UTCN_2020.pdf

The final list of candidates was displayed on IOSUD-TUCN site ([Annex A.1.1.1. List candidates management IOSUD-TUCN](#)):

<https://www.utcluj.ro/alegeri/2020/iosud/>

<http://iosud.utcluj.ro/files/Files/Alegeri%202020/Lista%20candidaturi%20depuse%20-%20Structuri%20de%20conducere%20IOSUD-UTCN-Lista%20finala.pdf>

The election schedule was posted on the site ([Annex A.1.1.1. Data time election IOSUD TUCN 2020](#))
 The doctoral students were informed via e-mail about the organization of the elections ([Annex A.1.1.1. Announce election DRD](#)).

http://iosud.utcluj.ro/files/Files/Alegeri%202020/Data%20si%20ora-alegeri-IOSUD-UTCN_2020.pdf

The vote was organized online and was a secret and direct vote. During the elections, minutes were drawn up by the Electoral Bureaus of the meeting ([Annex A.1.1.1. Minutes elections IOSUD TUCN 2020](#)):

http://iosud.utcluj.ro/files/Files/Alegeri%202020/Procese%20verbale_Alegeri IOSUD-UTCN_2020.pdf

The Minutes of the Final Results issued by the CSUD Electoral Bureau were posted on website ([Annex A.1.1.1. Minutes final results IOSUD-TUCN 2020](#)).

http://iosud.utcluj.ro/files/Files/Alegeri%202020/Procese%20verbale_Alegeri IOSUD-UTCN_2020.pdf

Following the results of elections, the decision appointing the members of the management structure CSUD 539 of 22.10.2020, posted on the IOSUD website ([Annex A.1.1.1. Decision 540 22.10.2020](#), [Annex A.1.1.1. Decision 539 22.10.2020 members CSUD](#); [Annex A.1.1.1. Decision 538 22.10.2020 Director DS](#)):

<http://iosud.utcluj.ro/structura-139.html>

http://iosud.utcluj.ro/files/Files/Structura/Decizie_540_din_22.10.2020.pdf

http://iosud.utcluj.ro/files/Files/Structura/Decizie_539_din_22.10.2020.pdf

http://iosud.utcluj.ro/files/Files/Structura/Decizie_538_din_22.10.2020.pdf

At 3.12.2021 were organized **partial elections** for the members in CSUD-doctorate students –Electric Domain and Coordinator for the Council for the Coordination of Doctoral Programm in Humanity Sciences.

<https://www.utcluj.ro/alegeri/2021/iosud/>

At 31.01.2022 were organized **partial election** for the position of Coordinator of the Council for the Coordination of Doctoral Programs Humanity Sciences – Doctorate Supervisor within IOSUD-TUCN

<https://www.utcluj.ro/alegeri/2022/iosud/>

Official documents in the basis of which the elections were conducted in 2021 and 2022 were posted on TUCN site:

<https://www.utcluj.ro/alegeri/2021/iosud/>

<https://www.utcluj.ro/alegeri/2022/iosud/>

The decisions appointing the new members were posted on IOSUD-TUCN website: ([Annex A.1.1.1. Decision 922 election CSUD december 2021](#); [Annex A.1.1.1. Decision 120 7.02.22 appointed coordinator](#); [Annex A.1.1.1. Decision 121 7.02.22 appointed CSUD](#)):

https://iosud.utcluj.ro/files/Files/Alegeri%202021/Decizie_922_alegeri_CSUD_decembrie%202021.pdf

https://iosud.utcluj.ro/files/Files/Alegeri%202022/Decizie_120_7.02.22_numire%20Coordonator.pdf

https://iosud.utcluj.ro/files/Files/Alegeri%202022/Decizie_121_7.02.22_numire%20CSUD.pdf

<https://iosud.utcluj.ro/structura-139.html>

Annexes

[Annex A.1.1.1. Methodology election CSUD f](#)

[Annex A.1.1.1. H. Senate 1023 Completions Methodology elections DS](#)

[Annex A.1.1.1. Methodology elections doctoral school TUCN](#)

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

[Annex A.1.1.1. H. Senate 1187 Update Institutional Regulation](#)

[Annex A.1.1.1. Order 498 30.09.2020](#)

[Annex A.1.1.1. Order 503 1.10.2020](#)

[Annex A.1.1.1. List candidates management IOSUD-TUCN](#)

[Annex A.1.1.1. Data time election IOSUD TUCN 2020](#)

[Annex A.1.1.1. Minutes elections IOSUD TUCN 2020](#)

[Annex A.1.1.1. Minutes final results IOSUD-TUCN 2020](#)

[Annex A.1.1.1. Decision 540 22.10.2020](#)

[Annex A.1.1.1. Decision 539 22.10.2020 members CSUD](#)

[Annex A.1.1.1. Decision 538 22.10.2020 Director DS](#)

[Annex A.1.1.1. Decision 299 03062020 Component DSC](#)

[Annex A.1.1.1. Anounce election DRD](#)

[Annex A.1.1.1. Decision 922 election CSUD december 2021](#)

[Annex A.1.1.1. Decision 120 7.02.22 appointed coordinator](#)

[Annex A.1.1.1. Decision 121 7.02.22 appointed CSUD](#)

(c)the Methodologies for organizing and conducting doctoral studies (for the admission of doctoral students, for the completion of doctoral studies);

TUCN has defined a transparent and rigorous timetable and strategy ([Annex A.1.1.1. Calendar admission 2022 detailed](#)) for student recruitment and admission, respecting the principle of equal opportunities for all candidates, without any discrimination. The regulation is update every year according with the changes occurred in the legislation.

The **Regulation regarding admission organization to the cycle of doctoral studies in Technical University of Cluj-Napoca** in force at the moment of evaluation was adopted by Senate Decision 1467 from 24.03.2022, and is available on the web page of IOSUD-TUCN:

<http://iosud.utcluj.ro/regulamente.html>

https://iosud.utcluj.ro/files/Admitere%202022/Regulamentul_de_admitere_la_doctorat_2022.pdf

<https://iosud.utcluj.ro/admitere.html>

In accordance with *Regulation regarding admission organization to the cycle of doctoral studies in Technical University of Cluj-Napoca* ([Annex A.1.1.1 Rules admission doctorate 2022– Article 9](#)), the periods for the admission sessions, the exam forms and the tests are made public at least six (6) months before the entrance examination, by publishing the information on the web page of the Institution Organising Doctoral Studies within UTCN both in Romanian and English.

<http://iosud.utcluj.ro/admitere.html>

<http://iosud.utcluj.ro/admitere.en.html>

Admission to doctoral studies ([Annex A.1.1.1 Rules admission doctorate 2022 – Art. 27\(1\)](#)), irrespective of the field, the exam of admission to doctoral studies consists of at least two examinations. The interview and the eliminatory tests are taken before an admission committee composed of the PhD supervisor who offered the doctoral place for admission and at least two other specialists from the Technical University of Cluj-Napoca who are at least associate professors or 2nd-degree scientific researchers. The president of the admission committee is the PhD supervisor. a language proficiency exam for an international language, taken at the Department for Modern Languages and Communication within the UTCN or at the Faculty of Letters within the North University Centre in Baia Mare. Following the exam, the applicant has to obtain a language certificate. If an applicant already holds a language certificate recognised by the Department for Modern Languages and Communication or by the Faculty of Letters within the North University Centre in Baia Mare, then the language certificate exam is no longer necessary. The admission committees are proposed by the Councils of the doctoral schools and are approved by the CSUD director. The minimum average mark that an applicant has to obtain to be admitted is 7.00. The average mark is calculated with two decimals, no rounding.

Doctoral studies are completed through the public defense of the PhD thesis in front of the analysing committee and the committee for the public defense of the doctoral thesis. At the completed of doctoral studies there are: **Regulation of the Doctoral School of the Technical University of Cluj-Napoca within the Institution Organising Doctoral Studies (IOSUD-UTCN)** ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)), **The Procedure Regarding the Completion of the Doctoral**

The Procedure Regarding the Completion of the Doctoral [A.1.1.1. Procedure defence Thesis may 2020\(1\)](#) Studies Within IOSUD-UTCN approved in C.A. 12.11.2019 ([Annex A.1.1.1. Procedure defence Thesis CA november 2019](#)), revised by Senate Decision 1171 from 27.04.2020 and Operational procedure regarding the **completion of doctoral studies in IOSUD-TUCN (ed. II, revision 0) adopted by Senate Decision**

1236 from 22.02.2022 ([Annex A.1.1.1. Procedure defense thesis 22.02.2022](#)).

http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Senat_24.09.2020.pdf

https://iosud.utcluj.ro/files/Files/EN-Files/Sustinerea%20tezei%20de%20doctorat/Procedura%20sustinere%20teza_Editia%20II_Revizia%201_CA_22.02.22.pdf

http://iosud.utcluj.ro/files/Formulare%20sustinere%20teze%20de%20doctorat/Formulare%20doctorat%20-%20noiembrie%202019/Procedura%20sustinere%20teza_CA_noiembrie_2019.pdf

<https://www.utcluj.ro/media/decisions/2020/10/02/H. Senat nr. 1235 Actualizare Regulament Institutional.pdf>

<https://www.utcluj.ro/media/decisions/2020/10/02/H. Senat nr. 1236 Actualizare Procedura finalizare studii de doctorat.pdf>

For the information and support of PhD students on the completion of doctoral studies, IOSUD-UTCN developed and made available to doctoral students on the UTCN website (*Guidelines for the Elaboration of the PhD Thesis - UTCN*), coverpage, template and the other forms necessary for the public defence of the PhD thesis ([Annex A.1.1.1. Guide doctoral thesis UTCN 2019-2020](#); [Annex A.1.1.1. Template doctoral thesis TUCN](#); [Annex A.1.11. Cover doctoral thesis](#)).
<http://iosud.utcluj.ro/sustinerea-tezei-de-doctorat.html>

Annexes

[Annex A.1.1.1. Regulation admission doctoral studies CA 2.02.21](#)

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

[Annex A.1.1.1. Procedure defence-Thesis CA november 2019](#)

[Annex A.1.1.1. Procedure defence Thesis may 2020 \(1\) Annex](#)

[A.1.1.1. Procedure defence Thesis Senate 24.09.2020 Annex](#)

[A.1.1.1. H. Senat 1235 Update Institutional Regulation Annex](#)

[A.1.1.1. H. Senat 1236 Update Completion procedure Annex](#)

[A.1.1.1. H. Senat 1319 Update Admission Regulation Annex](#)

[A.1.1.1. Guide doctoral thesis UTCN 2019-2020 Annex](#)

[A.1.1.1. Template doctoral thesis TUCN Annex](#)

[A.1.11. Cover doctoral thesis](#)

(d) the existence of mechanisms for recognizing the status of a Doctoral advisor and the equivalence of the doctoral degree obtained abroad

According to the **Order of the Romanian Minister for Education and Scientific Research no. 5923/16 December 2016** for the approval the Methodology regarding the automatic recognition by institutions organizing doctoral university studies, of the title of PhD supervisor obtained in accredited universities from abroad IOSUD-UTCN automatically recognized the title of PhD supervisor or the habilitation obtained in accredited universities from European Union member states, from the European Economic Area, from the Swiss Confederation and from prestigious universities from other member states included in the List of prestigious universities from other states, approved by the Ordinance of the relevant Minister and periodically updated, accredited higher education or research and development institutions which are the object of an international convention of mutual recognition concluded at an intergovernmental or inter-university level.

https://www.edu.ro/sites/default/files/fisiere%20articole/ORDIN_5923_2016.pdf

At the level of IOSUD-UTCN the procedure for the recognition of the title of PhD supervisor obtained in accredited universities from abroad is based on the Regulation for the habilitation and affiliation to Doctoral School of TUCN ([Annex A.1.1.1. Habilitation Regulation Senate 24.09.2020](#)) approved by the CA of TUCN in 16.09.2021 and by the Decision of Senate 1237 from 24.09.2021 ([Annex A.1.1.1. H. Senate nr. 1237 Update Habilitation Rule](#)), Operational procedure regarding the habilitation within IOSUD-TUCN Ed. II, Revision 0 ([Annex A.1.1.1. Procedure habilitation approved Senate 24.09.2020](#)) approved by Decision of Senate 1238 from 24.09.2020 ([Annex A.1.1.1. H. Senate 1238 Habilitation Update](#)), Operational procedure regarding the habilitation within IOSUD-TUCN, Ed. II, Revision 1 ([Annex A.1.1.1. Procedure Habilitation Ed II Revision 1 CA 22.02.22](#)) and approved by CA from 22.02.2022 ([Annex A.1.1.1. Bulletin 140 CA](#)), that issued

the conditions that should be fulfilled to obtain the doctorate habilitation and affiliation to Doctoral School of TUCN. The documents are available on the IOSUD-TUCN webpage:

<http://iosud.utcluj.ro/regulamente.html>

http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Abilitare_aprobat_Senat_24.09.2020.pdf

http://iosud.utcluj.ro/files/Files/Legislatie%202020/Procedura%20abilitare_aprobat_Senat_24.09.2020.pdf

https://www.utcluj.ro/media/decisions/2020/10/02/H._Senat_nr._1237_Actualizare_Regulament_abilitare.pdf

https://www.utcluj.ro/media/decisions/2020/10/02/H._Senat_nr._1238_Actualizare_Procedura_abilitare.pdf

https://iosud.utcluj.ro/files/Files/Legislatie%202022/Procedura%20abilitare_Editia%20II_Revizia%201_CA_22.02.22.pdf

https://www.utcluj.ro/media/page_document/260/Buletin_informativ_140_CA.pdf

The PhD diploma obtained abroad is recognized according to the Methodology for the recognition of the PhD diploma and of PhD in science or a professional field obtained abroad by the Technical University of Cluj-Napoca approved by the Senate Decision No. 723 din 23 februarie 2017 ([Annex A.1.1.1. H. Senate 724 Recognition PhD abroad](#)).

https://www.utcluj.ro/media/decisions/2017/02/27/H._Senat_nr._724_Metodol._de_rec._automata_de_UTCN_a_cali._de_cond_d_G1ebBJn.pdf

Annexes

[Annex A.1.1.1. Habilitation Regulation Senate 24.09.2020](#)

[Annex A.1.1.1. Procedure habilitation approved Senate 24.09.2020](#)

[Annex A.1.1.1. H. Senate nr. 1237 Update Habilitation Rule](#)

[Annex A.1.1.1. H. Senate 724 Recognition PhD abroad](#)

[Annex A.1.1.1. Procedure Habilitation Ed II Revision 1 CA 22.02.22](#)

[Annex A.1.1.1. Bulletin 140 CA](#)

[Annex A.1.1.1. H. Senate 724 Recognition PhD abroad](#)

(e) functional management structures (Council of the Doctoral School) (the regularity of meetings);

UTCN is an Institution Organizing Doctoral University Studies. In UTCN the doctoral studies are organized in the UTCN Doctoral School accredited or provisionally authorized, in accordance with legal provisions. IOSUD-UTCN offers institutional, administrative and logistic support to its composing doctoral schools. Within IOSUD-UTCN there are functional management structures.

In the UTCN, doctoral studies are carried out within the **Doctoral School of the Technical University of Cluj-Napoca**, which is established as per the legal regulations in force. A doctoral school is established according to the law, on condition there are at least 3 PhD supervisors, upon the proposal of the CSUD, with the endorsement of the Rector and the Administration Council Board, and with the approval of the University Senate. The doctoral school is run by a **Director of the Doctoral School** and by the **Doctoral School Council**.

The organization, structure and attributions of the Doctoral School Council are mentioned in Art. 19-20 of the Institutional Regulation regarding the organization and conducting the doctoral studies and postdoctoral programmes for advanced research in TUCN ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)).

https://www.utcluj.ro/media/page_document/213/Regulament_Institutional.pdf

The **Doctoral School Council** is assimilated to the Council of the department and is elected for five years. The structure and the number of the members of the Council of each Doctoral School within the IOSUD-TUCN are established by the CSUD in compliance with the legal regulations in force. The number of members of the Doctoral School Council within the IOSUD-TUCN is limited to seven: The Doctoral School Council includes PhD supervisors from the doctoral school (maximum 50%), PhD students (20%, rounded up if necessary), plus members from outside the doctoral school selected from those scientific personalities whose scientific activity has significant international recognition and/or personalities from the relevant industrial and socio-economic sectors. **The members of the Doctoral School Council** are selected according to the methodology for the organisation of elections and appointment of the doctoral school management within the IOSUD-TUCN ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#) Art.19(1-11); [Annex A.1.1.1. Regulation Doctoral School TUCN– Art. 7](#)).

http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Sen_at_24.09.2020.pdf

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

The Director of Doctoral School runs the Doctoral School Council (Art. 4 - [Annex A.1.1.1. Methodology elections doctoral school TUCN](#), [Annex A.1.1.1. HCA 279 4.12.2018 Component CSD](#), [Annex A.1.1.1. Decision 150 4.06.2019 Component CSD](#); [Annex A.1.1.1. Decision 387 5.12.19 Component DSC](#), [Annex A.1.1.1. Decision 299 03062020 Component DSC](#), [Annex A.1.1.1. Decision 502 01102020 Prolongation mandate DS](#)).

http://iosud.utcluj.ro/files/Files/HCA_279%20din%204.12.2018_Componenta_CSD.pdf

http://iosud.utcluj.ro/files/Files/Decizia_150%20din%204.06.2019_Componenta_CSD.pdf

http://iosud.utcluj.ro/files/Files/Decizia_387_din_5.12.19_Componenta_Consiliul_Scolii_doctorale.pdf

http://iosud.utcluj.ro/files/Files/Decizia_nr_299_din_03062020_privind_componenta_Consiliului_Scolii_Doctorale_UTCN.pdf

http://iosud.utcluj.ro/files/Files/Structura/Decizia_502_din_01102020_Prelungire_mandate_Scoala_doctorala.pdf

The CSD meetings are organized on regular basis, according to in force legislation. As example, we present a Minute of a meeting, other documents could be presented as request ([Annex A.1.1.1. Minute CSD CSUD 28.04.21](#)).

Annexes

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

[Annex A.1.1.1. Minute CSD CSUD 28.04.21](#)

[Annex A.1.1.1. Methodology elections doctoral school TUCN](#)

[Annex A.1.1.1. HCA 279 4.12.2018 Component CSD](#)

[Annex A.1.1.1. Decision 150 4.06.2019 Component CSD](#)

[Annex A.1.1.1. Decision 387 5.12.19 Component DSC](#)

[Annex A.1.1.1. Decision 299 03062020 Component DSC](#)

[Annex A.1.1.1. Decision 502 01102020 Prolongation mandate DS](#)

(f) the contract for doctoral studies

The rights and obligations of doctoral students are provided in Agreement for Doctoral Studies. After being declared admitted, the doctoral student concludes with IOSUD-UTCN an Agreement for Doctoral Studies and an Agreement for Disciplines. They are available every year on IOSUD-TUCN webpage

and updated by needed. The last version was published for each doctoral program ([Annex A.1.1.1. Architecture Agreement studies 2021](#), [Annex A.1.1.1. Agreement disciplines 2021](#)). The agreement includes the minimum standards for granting the doctoral degree specific to each field of doctoral studies, according to Order no. 5110/2018 of September 17, 2018 regarding the approval of the minimum national standards for granting the doctoral degree. Also, recent updates were brought related to the publication of doctoral theses following the reception of Letter 83/GP/10.02.2020 from the Ministry of Education and Research. Together with Agreement of Doctoral Studies it was also displayed Subject agreement the Annex on Notification of students and trainees regarding the processing of personal data by the Technical University of Cluj-Napoca, the latter being the result of the regulations in force regarding the protection of personal data. ([Annex A.1.1.1. Agreement Annex personal data](#)).

<http://iosud.utcluj.ro/admitere.html>

http://iosud.utcluj.ro/files/Files/Contracte%202021/Arhitectura_Contract_studii_doctorale_2021.pdf

http://iosud.utcluj.ro/files/Files/Contracte%202021/Contractul_disciplinelor_doctorat_2021.pdf

http://iosud.utcluj.ro/files/Files/Admitere/Contracte%202020/0_Contract_Anexa_Notificare_generala_studenti_contract_doctorat.pdf

Agreement for Doctoral Studies has been concluded in three copies, one for each contracting party, and is signed by: doctoral student, doctoral supervisor, legal advisor and Rector of TUCN. *Agreement for Disciplines* provides the subjects from the Advanced University Training Program and the Scientific Research Program that the doctoral student must go through and is signed by: doctoral student, doctoral supervisor, coordinator of CSUD and CSUD director. The models of the Framework Contract for Doctoral studies and of the Framework Contract of the Disciplines are elaborated by the Doctoral School, endorsed by the Council of the Doctoral School CSUD and approved by CSUD.

Annexes

[Annex A.1.1.1. Architecture Agreement studies 2021](#)

[Annex A.1.1.1. Agreement disciplines 2021 Annex](#)

[A.1.1.1. Agreement Annex personal data](#)

(g) internal procedures for the analysis and approval of proposals about doctoral study programs

In accordance with Regulation of Doctoral School of TUCN ([Annex A.1.1.1. Regulation Doctoral School TUCN](#)) the doctoral programs of IOSUD-TUCN UTCN Doctoral School are coordinated by the 10 Coordination Councils. Of the attributions of Coordination Council of the doctoral programmes can be mentioned (Art. 8(2): validates the scientific research programs for PhD students; draws up and recommends the content of the doctoral study programmes, approved by the CSUD; Adopts the necessary measures to ensure the quality of the doctoral studies, for the proper periodical assessments of the doctoral schools and the PhD supervisors, for the compliance with the ethical and professional rules, as well as for the external assessment process with a view to the accreditation/reaccreditation or the temporary authorisation of the doctoral school.

According to Art. 9, para.(12) of the Regulation of the TUCN Doctoral School in force, approved in the CSUD meeting of 23.01.2019 and endorsed by the Board of Directors of 23.01.2019, the Coordinating Council of the doctoral programs of each field draws up and proposes the structure and content of the program general of doctoral studies depending on the opportunity of the topics and/or subjects and the current legislation. The program is then approved by the CSUD. Art. 9, paragraph (13) of the Doctoral School Regulation ([Annex A.1.1.1. Regulation Doctoral School TUCN](#)) specifies, inter alia, the fact that the responsibility for the content of the doctoral training program rests with the PhD Supervisor. The theme of the scientific research project is established by the PhD Supervisor together with the doctoral student and is correlated with the advanced university training program, the programs and the institutional policies of the university

(Institutional Regulation on the organization and development of doctoral studies and postdoctoral programs for advanced research at the Technical University of Cluj-Napoca – [Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020-Art. 50\(1\)](#)).

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

http://iosud.utcluj.ro/files/Files/REGULAMENT_Institutional_Doctorat_CA_14.01.2020.pdf

In order to carry out the doctoral program in good conditions, the doctoral student is supported, in addition to the PhD supervisor, by a steering committee composed of 3 other teachers or researchers from UTCN (who have the title of doctor and at least the position of head of works, university lecturer or scientific researcher degree III). In addition, another doctoral member may be part of the commission, from outside TUCN with an advisory role and with competences in the subject of the doctoral thesis, who may come from other universities or from relevant industrial and socio-economic sectors, affiliated or not affiliated to the doctoral school. The main role of the guidance commission of doctoral student is to support the doctoral student during the development of the doctoral program in order to elaborate the doctoral thesis (**Institutional Regulation on the organization and development of doctoral studies and postdoctoral programs for advanced research at the Technical University of Cluj-Napoca - [Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#) - Art. 32**).

http://iosud.utcluj.ro/files/Files/REGULAMENT_Institutional_Doctorat_CA_14.01.2020.pdf

<https://iosud.utcluj.ro/stagiul-de-doctorat.html>

The mechanisms of analysis and approval of the topic of each doctoral student are implemented throughout the duration of his doctoral activity, and can be highlighted as follows:

- within the admission process, the topic proposed by the PhD Supervisor together with the doctoral student is evaluated during the interview by the admission commission (Art. 27 of the Admission Regulations – [Annex A.1.1.1 Rules admission doctorate 2022 – Art. 27](#));

- the topic of the research project is submitted to the analysis of an examination commission (Art. 50(3,4), paragraph of the Institutional Regulation - [Annex A.1.1.1. Institutional Regulation HSU 123524 .09.2020](#));

- the ongoing analysis of the individual research program is also achieved by the steering committee once every six months by the doctoral student's submission of scientific research reports (Art. 52 of the Institutional Regulation - [Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#))
http://iosud.utcluj.ro/files/Files/Legislatie%202021/Regulament%20admitere%20doctorat_2021_CA_2.0_2.21.pdf
http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Senat_24.09.2020.pdf

Within IOSUD-TUCN, it is encouraged to propose and undertake development projects that contribute to increasing the quality of doctoral studies and results in research and innovation. The doctoral students and PhD supervisors benefit from the academic and administrative support of the Doctoral School and are supported in proposing and carrying out research and development of products, technologies or artistic and humanistic contributions. The research topic proposed by the PhD Supervisor is found in the specifics of the research topics from the center/team to which the PhD Supervisor is affiliated. This is part of the TUCN research topics.

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

The number of doctoral places requested at MEC by UTCN for financing from the state budget, the total number of places on which admission is organized (cumulating the budgeted places approved by MEC and those with payment) as well as their distribution in UTCN are proposed by CSUD, approved by the Board of Directors and approved by the University Senate for each academic year. The distribution of doctoral positions for each field takes into account each year the availability and load of doctoral supervisors, their individual performance, as well as the cumulative performance of each doctoral field established on the basis of a set of criteria proposed by CSUD, endorsed by Board of Directors and approved by the University Senate ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020 - Art.26\(1,2\).](#)

<http://iosud.utcluj.ro/files/Legislatie/REgulamente%20-%20aprilie%202020%20-/REGULAMENT Institutional Doctorat aprilie%202020.pdf>

Annexes

[Annex A.1.1.1. Regulation Doctoral School TUCN](#)

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

[Annex A.1.1.1. Rules admission doctorate 2022](#)

A.1.1.2. The doctoral school's Regulation includes mandatory criteria, procedures and standards binding on the aspects specified in Article 17, paragraph 5 of the Government Decision No. 681/2011 on the approval of the Code of Doctoral Studies and subsequent amendments and additions

Institution Organising Doctoral Studies (IOSUD-TUCN) included mandatory criteria, procedures and standards binding on the aspects specified in Article 17, paragraph 5 of the Government Decision No. 681/2011 with reference to:

(a) ***Conditions for habilitation, affiliation to the doctoral school and withdrawal*** are presented in Chapter 7 *Conditions for habilitation, affiliation to the doctoral school from the Regulation of the Doctoral School of the Technical University of Cluj-Napoca within the Institution Organising Doctoral Studies (IOSUD-UTCN)* ([Annex A.1.1.1. Regulation Doctoral School TUCN](#)), Operational procedure regarding the habilitation within IOSUD-TUCN, Ed. II, Revision 1 ([Annex A.1.1.1. Procedure Habilitation Ed II Revision 1 CA 22.02.22](#)) approved in CA 22.02.2022 ([Annex A.1.1.1. Bulletin 140 CA](#)), Operational Procedure regarding habilitation in IOSUD-UTCN 24.09.2020 ([Annex A.1.1.1. Procedure habilitation approved Senate 24.09.2020](#)), and Regulation for obtaining the certificate of habilitation and affiliation in Doctoral School of the Technical University of Cluj-Napoca ([Annex A.1.1.1. Regulation Doctoral School TUCN](#); [Annex A.1.1.2. Template affiliation Doctoral School](#)).

Article 22 of the Regulations of the Doctoral School of UTCN ([Annex A.1.1.1. Regulation Doctoral School TUCN](#)) states that the **verification of the fulfillment of the minimum qualification standards**, drawn up by the candidates in accordance with the legal standards in force for the Domain concerned, is done by the Coordination Councils of the Doctoral programs. The structure of the commission that check the fulfilling of habilitation standards is decided according to the Decision of CA from 16.02.2021 ([Annex A.1.1.1. HCA 21 16.02.21 commission habilitation](#)).

The final report regarding the fulfilling of habilitation standards and structure of commission are approved by the Council for Coordination of Doctoral Program and Council of Doctoral School. According to Art. 23(5) from Regulation of Doctoral School ([Annex A.1.1.1. Regulation Doctoral School TUCN](#)) the Council of Doctoral School together with the Council for Coordination of Doctoral Program of doctoral domain of interest analyse the acceptance request of candidate, opportunity of acceptance of new members in the doctoral school and fulfillment of criteria specified in the Regulation of Doctoral School.

In the case of positive decision, the director of the doctoral school submit to IOSUD-TUCN the favorable decision (extras from Minute of Council Meeting) together with the specific documents. IOSUD-TUCN submit the documents to CSUD and then to TUCN Senate for validation. The decision of TUCN Senate is communicated to competent Ministry. .

The **withdrawal of membership** of the Doctoral School ([Annex A.1.1.1. Regulation Doctoral School TUCN - Art. 24](#)) can be made: at the written request of the PhD supervisor, member of the Doctoral School; at the request of the internal/external periodical evaluation committee; in other situations arising from the regulatory acts in force, or the internal regulations of the university.

Application forms for Rounding to the UTCN Doctoral School, Withdrawal of the doctoral supervisor from the UTCN Doctoral School and Withdrawal of the doctoral supervisor affiliation from the UTCN Doctoral School are available on the IOSUD-UTCN website:

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

https://iosud.utcluj.ro/files/Files/Legislatie%202022/Procedura%20abilitare_Editia%20II_Revizia%201_CA_22.02.22.pdf

https://www.utcluj.ro/media/page_document/260/Buletin_informativ_140_CA.pdf

http://iosud.utcluj.ro/files/Files/Legislatie%202020/Procedura%20abilitare_aprobat_Senat_24.09.2020.pdf

http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Abitare_aprobat_Senat_24.09.2020.pdf

<http://iosud.utcluj.ro/scoli-doctorale-146.html>

https://iosud.utcluj.ro/files/Files/Legislatie%202022/Procedura%20abilitare_Editia%20II_Revizia%201_CA_22.02.22.pdf

https://www.utcluj.ro/media/page_document/260/Buletin_informativ_140_CA.pdf

https://iosud.utcluj.ro/files/Files/Files%202021/HCA_29_din_9.03.21_Dezafileire.pdf

https://iosud.utcluj.ro/files/Files/Legislative%202021/HCA_21_din_16.02.21_comisie%20verificare%20st_anderde_evaluare.pdf

(b) the decision-mechanisms regarding the opportunity, structure and content of the training program based on advanced university studies are regulated in the **Regulation of the Doctoral School of the Technical University of Cluj-Napoca within the Institution Organising Doctoral Studies (IOSUD-TUCN)** at Art. 9(12): *The doctoral study programme based on advanced university studies: purpose, structure, and content*, Art. 9(13): *The doctoral study programme based on advanced university studies: opportunity, responsibility* ([Annex A.1.1.1. Regulation Doctoral School TUCN](#)), as well as is described in Chapter 4 from the **INSTITUTIONAL REGULATION on the organisation and conduct of doctoral studies and advanced research post-doctoral programmes at the Technical University of Cluj-Napoca (TUCN)** ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)).
http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf http://iosud.utcluj.ro/files/Legislatie/Regulamente%20-%20aprilie%202020%20-%20REGULAMENT_Institutional_Doctorat_aprilie%202020.pdf

(c) changing the PhD supervisor and the procedures for the mediation of conflicts are stipulated in the Art. 17 and Art. 18 of the CHAPTER 5. *Changing the phd supervisor and the procedures for the mediation of conflicts* from **Regulation of Doctoral School of IOSUD-TUCN** ([Annex A.1.1.1. Regulation Doctoral School TUCN](#)). On IOSUD-TUCN website is displayed the template of the request for changing the doctoral supervisor ([Annex A.1.1.1. Request change doctoral supervisor](#)). The CSUD mediates the conflicts between the PhD supervisor and the PhD student as is describe in the same chapter at the [Art.19](#).

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

(d) **circumstances under the PhD program can be interrupted** are stipulated in the Chapter 4: *The compliance with the deadlines of the terms from the advanced university training program (PPUA), the Scientific Research Program (PCS) and the public defense of the doctoral thesis* – Art. 11 from the Regulation of Doctoral School of TUCN ([Annex A.1.1.1. Regulation Doctoral School TUCN](#))

Interruption is approved by the CSUD, at the doctoral student request with the approvals of doctorate supervisor and Council of Doctorale School. On IOSUD-TUCN is displayed the template of the request for the interruption of the doctoral program ([Annex A.1.1.1. Interruption doctoral stage](#)).

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

<https://iosud.utcluj.ro/stagiul-de-doctorat.html>

(e) **ways to prevent and sanction fraud in scientific research, including plagiarism** are provided in Procedure regarding the prevention and ensuring the observance of the norms of ethics and academic integrity within IOSUD-TUCN ([Annex A.1.1.2. Etic procedure IOSUD CA 9.03.2021](#)), Regulation of the Doctoral School of the Technical University of Cluj-Napoca within the Institution Organising Doctoral Studies (IOSUD-TUCN) ([Annex A.1.1.1. Regulation Doctoral School TUCN](#) -Art. 15(1)), INSTITUTIONAL REGULATION on the organisation and conduct of doctoral studies and advanced research post-doctoral programmes at the Technical University of Cluj-Napoca (UTCN) ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#) – section 5.2 – Respecting of academic ethics – Art. 57) și and The strategy to prevent plagiarism in TUCN ([Annex A.1.1.1. Strategy TUCN plagiarism-CA](#)) approved in 19.10.2021, Procedure regarding the compliance of academic ethic and deontology during development of doctoral thesis (1990-2016) within IOSUD-TUCN ([Annex A.1.1.1. Procedure checking thesis CA 19.10.2021](#)) approved in CA from 19.10.2021.

The Doctoral School and IOSUD take measures to prevent and penalise the violations of the scientific, professional and academic ethics, according to the ethics code and professional rules of UTCN is mentioned in CHAPTER 9 *Compliance with the scientific, professional and university ethics* - Art. 27(3) from [Annex A.1.1.1. Regulation Doctoral School TUCN](#).

http://iosud.utcluj.ro/files/Files/Legislatie%202021/Procedura%20etica%20IOSUD_CA_9.03.2021.pdf

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

http://iosud.utcluj.ro/files/Legislatie/Regulamente%20-%20aprilie%202020%20-/REGULAMENT_Institutional_Doctorat_aprilie%202020.pdf

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

http://iosud.utcluj.ro/files/Files/EN-Files/Legislatie/Strategia.UTCN_plagiat%20-%20CA.pdf

https://iosud.utcluj.ro/files/Files/Legislatie%202021/Procedura%20verificare%20teze_CA_19.10.2021.pdf

(f) **the access of the PhD student to research resources** is stipulated in Art. 9(14 a-d) from Regulation of the Doctoral School of the Technical University of Cluj-Napoca within the Institution Organising Doctoral Studies (IOSUD-TUCN) ([Annex A.1.1.1. Regulation Doctoral School TUCN](#)), Procedure regarding the prevention and ensuring the observance of the norms of ethics and academic integrity within IOSUD-TUCN ([Annex A.1.1.2. Etic procedure IOSUD CA 9.03.2021](#)) and the Agreement for doctoral studies ([Annex A.1.1.1. Architecture Agreement studies 2021](#)).

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

http://iosud.utcluj.ro/files/Files/Legilsatie%202021/Procedura%20etica%20IOSUD_CA_9.03.2021.pdf

http://iosud.utcluj.ro/files/Files/Contracte%202021/Arhitectura_Contract_studii_doctorale_2021.pdf

(g)attendance obligations of doctoral students are described in CHAPTER 4 *Compliance with the terms of the advanced university training programme (PPUA), the scientific research programme (PCS) and the public defence of the PhD thesis* Art. 10, 12, 14 from Regulation of the Doctoral School of the Technical University of Cluj-Napoca within the Institution Organising Doctoral Studies (IOSUD-TUCN) (Annex A.1. Regulation of the doctoral school of the UTCN) and Agreement for doctoral studies (Annex A.1.1.1. Arhitecture Agreeemet studies 2021).

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

http://iosud.utcluj.ro/files/Files/Contracte%202021/Arhitectura_Contract_studii_doctorale_2021.pdf

Annexes

[Annex A.1.1.1. Regulation Doctoral School TUCN](#)

[Annex A.1.1.1. Habilitation procedure Senate 24.09.2020](#)

[Annex A.1.1.2. Template affiliation Doctoral School](#)

[Annex A.1.1.2. Template withdrawal supervisor](#)

[Annex A.1.1.2. Template withdrawal membership](#)

[Annex A.1.1.1. Request change doctoral supervisor](#)

[Annex A.1.1.1. Interruption doctoral stage](#)

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

[Annex A.1.1.1. Arhitecture Agreement studies 2021](#)

[Annex A.1.1.2. Etic procedure IOSUD CA 9.03.2021](#)

[Annex A.1.1.1. Strategy prevent plagiarism TUCN CA](#)

[Annex A.1.1.1. Procedure checking thesis CA 19.10.2021](#)

[Annex A.1.1.1. Strategy TUCN plagiarism- CA](#)

A.1.2. The IOSUD has the logistical resources necessary to carry out the doctoral studies' mission.

A.1.2.1. The existence and effectiveness of an appropriate IT system to keep track of doctoral students and their academic background information systems for human resource and academic performance management. Within TUCN, the record of doctoral students and their academic career is achieved by:

1. Doctoral School digitization platform

Doctoral School Digitization Platform is a web application consisting of 10 modules that provides electronic management of information flows in the doctoral school. This application works on server hardware to ensure 24/7 availability. Information flow management is divided into stages. The modules that make up the application are:

- Role and permission management module
- Admission and authentication module
- Internationalization module
- Doctoral student management module
- Application management module
- Document generation and upload module
- The module for public defense of doctoral theses
- The module for generating statistics
- Data export and archiving module
- "dCard" digital card identification module

The platform currently manages admission data, guidance committee, contracted subjects, research topic and other information for over 200 doctoral students. The platform is constantly evolving by adding new modules, such as the inclusion of the module that comprises abstracts of doctoral theses.

The platform also provides its users with email notifications for various important events such as:

- Changing the stage of a candidate or doctoral student
- Sending, receiving, updating digital applications -
- Uploading, modifying, updating documents, etc.

The platform provides users with a free electronic card-based electronic identification system with a temporary QR code and has an authorization system based on roles and permissions, so that the application is secure in terms of access. Currently there is the role of Administrator, Staff, Manager, doctoral student, Candidate and over 200 permits.

<https://doctorat.utcluj.ro/>

2.The integrated system for evaluating teaching, research and managerial activities in TUCN (SIMAC)

SIMAC assesses using several criteria the academic activity of TUCN staff, including that of doctoral students, allowing a qualitative evaluation of their performance based on rules established at university level.

<https://research.utcluj.ro/index.php/simac.html>

https://research.utcluj.ro/tl_files/research/SIMAC/Regulament_SIMAC_v.pdf

Annexes

[Annex A.1.2.1. Informatic System Doctoral students](#)

A.1.2.2. The existence and use of an appropriate software program and evidence of its use to verify the percentage of similarity in all doctoral theses.

In order to verify the originality of scientific papers, research reports and doctoral theses, starting with 2016, the Turnitin anti-plagiarism software is used, to which access has been created for all PhD Supervisors.

<http://turnitin.com/ro/>

https://www.utcluj.ro/media/page_document/287/ORDIN_3485_24-03-2016.pdf

How Turnitin software works is specified in **Regulation of the Doctoral School of the Technical University of Cluj-Napoca within IOSUD-TUCN**, Art. (15): "The TUCN Doctoral School must carry out the anti-plagiarism check (through the TURNITIN software provided by TUCN) and develop **similarity report** ([Annex A.1.2.2. D3 Similarities report](#)), by the person designated for this purpose, member of the Coordinating Council of the doctoral program in the field concerned. ", and the typical procedure to be followed for the verification of the doctoral thesis is detailed in **Anti plagiarism Procedure** ([Annex A.1.2.1. Strategy TUCN antiplagiarism CA](#)). Aiming to check the originality of scientific papers, scientific reports and doctoral thesis, starting with 2016 antiplagiarism TURNITIN soft is used, to which all doctoral supervisors have access:

<http://turnitin.com/ro/>

https://www.utcluj.ro/media/page_document/287/ORDIN_3485_24-03-2016.pdf

Working with TURNITIN is specified in the Regulation of Doctoral School of IOSUD-TUCN at Art. 15: "*Doctoral School must check antiplagiarism (by using TURNITIN soft offered by TUCN) and develop the similitudes report by a special appointed person, member of the Council for Coordination of Doctoral Programs*". The procedure for checking is detailed in the Antiplagiarism Procedure ([Annex A.1.2.1. Antiplagiarism procedure](#)) and Procedure regarding defending of doctoral thesis within IOSUD-TUCN ([Annex A.1.1.1. Procedure defense thesis 22.02.2022](#)).

https://iosud.utcluj.ro/files/Files/EN-Files/Legislatie/Strategia_UTCN_plagiat%20-%20CA.pdf

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CSUD_23.01.19.pdf

https://www.utcluj.ro/media/page_document/148/Procedura_etica_IOSUD_CA_9.03.2021.pdf

http://iosud.utcluj.ro/files/Files/Legislatie%202020/Procedura%20sustinere%20teza_aprobat_Senat_24.09.2020.pdf

Turnitin is an application used to detect and discourage plagiarism, designed for instructors (teachers, mentors). For each paper posted as a topic/assignment on Turnitin, it generates a similarity report that can be used by the instructor to identify plagiarism. The works can be reviewed and sent back for verification.

The similarity report compares the text sent for verification with the documents in its database, as well as with pages available on the Internet - books, magazines, publications - and selects similar pieces of text. The resulting similarity score is a percentage of the content of the document to be verified similar to texts in the database verified by Turnitin. Each fragment for which a similarity was found is presented in the report with the information on the source of the identical fragment.

Turnitin does not automatically detect plagiarism, only identical pieces of text. Ultimately, it is up to the instructor to interpret the similarity report returned by Turnitin. The following must be taken into account:

- Turnitin may not browse all sites on the Internet or may not distinguish citations.

- The similarity report does not detect plagiarized ideas or concepts, nor the content expressed by a totally reformulated text.

- Turnitin can be used as a verification tool, highlighting fragments that could be a problem related to possible plagiarism.

Turnitin works structured on Instructors, class and homework/ assignment. The typical steps to follow, once the instructor has an account created in Turnitin are:

- defining a class (some classes) and establishing the parameters that characterize the class, the parameters that will apply to all topics defined in that class.

-the definition of an Assignment, in which the work to be verified will be sent.

When defining an assignment, it is recommended to go through "Optional Settings" and take into account the following filters:

- excludes small sources,
- excludes quotes and bibliography,
- excludes full sources (allows re-evaluation of the paper),
- generate a new similarity report - allows the repeated generation of similarity reports for the same work paper.

Turnitin encodes by colors the level of similarity resulting from the verification as follows:

- 0% blue, 1 - 24% green, 25 - 49% yellow, 50 - 74% orange, 75 - 100% red. The default interpretation would be blue and green = ok, over = increased attention.

IOSUD-TUCN has a subscription to the specialized platform for verifying the similarity of TURNITIN ([Annex A.1.2.2. Proof payment TURNITIN 2015 2021](#), [Annex A.1.2.2. Request TURNITIN 2021](#), [Annex A.1.2.2. Payment TurnItIn 2021](#)), one of the most prestigious internationally. All doctoral theses are verified using this platform as part of the process of preparing public defense, and the doctoral student and the supervisor assume the results of the verification performed in accordance with internal regulations and good practices specific to the field, by signing a dedicated form. All PhD Supervisors have individual accounts within the TUCN institutional account, and doctoral students have access through supervisors. The widespread use of this mechanism for all elements of scientific production is encouraged, and in recent years there has been the development of a culture of prevention, verification and sanctioning of plagiarism within the institution, which forms the premises for quality scientific production and in accordance with academic ethics, internationally accepted.

Turnitin is used in the elaboration of *The similarity report* whereby the expert appointed from each field performs the anti-plagiarism verification of the doctoral theses to be defended within a maximum of 30 days from the submission of Application for starting the pre-examination procedure (D1 - see the *Study completion procedure* in force). *Acceptance report* of the PhD supervisor by which he expresses his agreement regarding the organization of the public defense of the doctoral thesis mentions that the content of the thesis was verified with the program of analysis of similarities Turnitin, made available to the Doctoral School of TUCN. The similarity report is uploaded on the national platform after the public defense.

As example, we present the application of TURNITIN for the evaluation of two licenses thesis from IPA domain: Food Engineering (IPA) and Food Control and Expertise (CEPA).

([Annex A.1.2.2. Report Turnitin CEPA 2021](#); [Annex A.1.2.2. Report Turnitin IPA 2021](#)).

Anexe

- [Annex A.1.1.1. Regulation Doctoral School TUCN](#)
- [Annex A.1.1.1. Procedure defense thesis 22.02.2022](#)
- [Annex A.1.2.1. Antiplagiarism procedure](#)
- [Annex A.1.2.1. Decision CA Turnitin](#)
- [Annex A.1.2.1. Description Turnitin](#)
- [Annex A.1.2.1. Guide Turnitin](#)
- [Annex A.1.2.1. Order 3485 24-03-2016](#)
- [Annex A.1.2.2. Proof payment TURNITIN 2015 2021](#)
- [Annex A.1.2.2. Request TURNITIN 2021](#)
- [Annex A.1.2.2. Payment TurnItIn 2021](#)
- [Annex A.1.2.2. D3 Similarities report](#)

[Annex A.1.2.2. Report similarities 2020](#)

[Annex A.1.2.2. Acceptance 2020](#)

[Annex A.1.2.2. Report Turnitin CEPA 2021](#)

[Annex A.1.2.2. Report Turnitin IPA 2021](#)

A.2. Research infrastructure

A.2.1. The IOSUD owns a modern research infrastructure to support the conduct of doctoral studies' specific activities.

A.2.1.1. The venues and the material equipment available to the doctoral school enable the research activities in the evaluated domain to be carried out, in line with the assumed mission and objectives (computers, specific software, equipment, laboratory equipment, library, access to international databases etc.). The research infrastructure and the provision of research services are presented to the public through a specific platform. The research infrastructure described above, which was purchased and developed within the past 5 years will be presented distinctly.

Research activity of the PhD students will take in place in didactic and research laboratories of the Department of Chemistry-Biology. Surface of laboratories are between 50 and 110 square meters and provide spots between 4 square meters and 7.33 square meters for each student, minimum according with ARACIS standard is 4 square meters per student ([Annex A.2.1.1. Faculties spaces](#), [Annex A.2.1.1. Educational spaces CUNBM](#), [Annex A.2.1.1. Teaching spaces](#)). The laboratories contain the furniture and the material base necessary to carry out the practical activities specific to the disciplines of the Food Engineering field. ([Annex A.2.1.1. Laboratories research](#), [Annex A.2.1.1. Laboratories didactic](#)). Of the total of 11 laboratories, 7 laboratories are dedicated to physical-chemical-microbiological analyses and 4 laboratories to food technologies. We also mention the spaces dedicated to the PhD students ([Annex A.2.1.1. Spaces PhD students](#)) that can be used for documentation, writing the scientific papers of PhD thesis.

At the level of the department operates an accredited research unit: *Center for Scientific Research Regarding Environment Safety, Foods and Health (CCESMAS)*. The research centre endowment was made booth from the university funds and from the research contracts coordinated by the members of the research unit ([Annex A.2.1.1. Research contracts](#)). Three research groups develop their scientific activity in the frame of CCESMAS research center ([Annex A.2.1.1. Research groups](#)). *Laboratory S33* from research center CCESMAS ([Annex A.2.1.1. Laboratories research– S33](#)) is structured in 4 areas: the sample preparation room, the sample disaggregation room, the morpho-structural analysis room and the physic-chemical analysis room. The *HPLC analysis laboratory* consists of a single space in which all the equipment related to the HPLC is positioned ([Annex A.2.1.1. Laboratories research– L28B](#)).

<https://research.utcluj.ro/index.php/chemistry-biology-145.html>

The research mobilities that doctoral students will carry out within the ERASMUS + Program at universities from Italy, France, Norway, the Netherlands, Portugal, Brazil, and Poland with specializations in the field of Food Industry will allow them access to analysis equipment that is not

available in the teaching and research laboratories of the Department of Chemistry-Biology ([Annex A.2.1.1. Agreements mobilities](#)).

Research infrastructure and research services offered by the research groups within Center for Scientific Research regarding Environment Safety, Foods and Health CCESMAS from Chemistry-Biology Department are presented by ERIS platform as follows:

- Group for physico-chemical analyses—coordinator Prof. dr. eng.hab. Mihaly Cozmata Anca <https://eeris.eu/ERIF-2000-000W-1516>
- Group for Food Engineering – coordinator Assoc. prof. dr. eng. hab. Giurgiulescu Liviu <https://eeris.eu/ERIF-2000-000S-1656>
- Group for nanomaterials and environmental analyses— coordinator Assoc. prof. dr. Mihali Cristina <https://eeris.eu/ERIF-2000-000W-2764>

They are also available on UTCN site at the section *Research-Structures*:
<https://research.utcluj.ro/index.php/chemistry-biology-145.html>
<https://eeris.eu/ERIF-2000-000S-1656>
<https://eeris.eu/ERIF-2000-000W-1516>
<https://eeris.eu/ERIF-2000-000W-2764>

An important part of the budget coming from research projects, services contracts with SMEs coordinated by the academic staff of the Department of Chemistry-Biology and also from the budget of UTCN is directed to providing laboratories with performant equipments. *Research infrastructure bought (achieved) in the past five years* is presented in [Annex A.2.1.1. Equipments 5 years](#). This consists in:

- physical- chemical analysis equipments in value of 627401.6 RON
- equipment for the food industry laboratories in value of 61351.56 RON
- logistics, reagents in value of 14794 RON

Total value of investment in infrastructure in the past 5 years is 703547.16 RON (143.581 euros).

The Faculty of Sciences has its own library:

<https://viziteaza.utcluj.ro/editura.html>
<https://biblioteca.utcluj.ro/prezentare-editura.html>
<https://biblioteca.utcluj.ro/materiale-editura.html>
<https://biblioteca.utcluj.ro/carti-online-cu-coperta.html>
<https://biblioteca.utcluj.ro/prezentare-biblioteca-CUNBM.html>

Currently, the CUNBM library operates in a new space, inaugurated in April 2019, which has a built area of 401.75 sqm and a developed area of 1560, 75 sqm and has 100 seats in the reading room. The new space provides students and users with optimal study and easier access to the library's collections. The own book fund from the Romanian and foreign specialized literature exists in a sufficient number to fully cover the subjects from the curriculum, of which over 30% represent book titles or university courses that have appeared in the last 5 years (2017-2021). The library's collections have an encyclopedic content, encompassing most areas of human knowledge, consisting of courses, textbooks, treatises and other specialized works, reference and information works, a large number (over 35,000) of scientific and technical journals, culture, literature and the art. The technical book fund, totalling over 29,000 volumes, largely covers the study and information needs of students and teaching staff. The library has subscriptions to Romanian and foreign publications and periodicals. The library owns a rich collection of specialized books

necessary for theoretical and practical training of students ([Annex A.2.1.1. Books journals databases](#), [Annex A.2.1.1. Journals subscriptions exchanges](#)).

The collection of periodicals is enriched every year by subscriptions to over 30 titles, by internal exchange, with over 28 partners, respectively 90 titles and by external exchange, with over 60 partners, respectively 75 titles. The library services benefit students, master students, doctoral students, teachers, as well as external readers. Through the SOFTLINK LIBERTY 3 and ALEPHINO software, the online consultation of the database is allowed. Internal readers also benefit from services such as: issuing bibliographies on request, selecting and listing electronically the titles in the online catalog, interlibrary loan service, at the request of students and teachers. The Info-standards platform ensures access to the complete package of Romanian standards.

The access from the computers of the university or the UTCN-CUNBM library to the databases completes the documentation sources of the students' teachers. Through the ANELIS-Plus program ([Annex A.2.1.1. ANELIS PLUS](#)) academic staff and PhD students have access to specialized articles and books by accessing the following databases free of charge: Science direct, Springer, Web of Science, Wiley Journals, IEEE/IEL Electronic Library, de Gruyter ebooks, America Institute of Physics Journals, CAB ebooks, Institute of Physics Journals, MathSciNet, Nature Journals, Scopus.

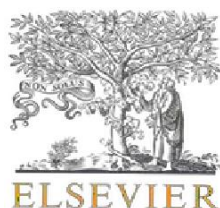
<https://research.utcluj.ro/index.php/acces-portal-anelis-plus.html>

The access of doctoral students is allowed permanently, based on account and password, from anywhere, free of charge. Access to the Anelis Plus portal is possible for all employees and students who have an e- mail account on the servers of the Technical University. Authentication is achieved with the email user or email address, and the email account password in TUCN. People who have multiple email aliases should use the email user.

TUCN doctoral students have access to generalist databases, with publications relevant to the field (e.g. databases of major publishers (e.g. Wiley, Elsevier, etc.) or integrative type (Ebsco, ProQuest, Web of Science, Scopus, etc.):

- Science Direct Freedom Collection Journals
- SpringerLink Journals
- Clarivate Analytics
- American Institute of Physics Journals
- ProQuest Central
- IEEE IEL
- Scopus
- Wiley Journals
- Institute of Physics Journals
- MatSciNet
- SCIENCE AAAS
- Nature

<http://www.anelisplus.ro/wp-content/uploads/2018/06/untitled-2.html>

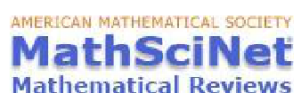
List of electronic resources available through the AnelisPlus project:
[Science Direct](#)

[Springerlink Journals](#)

[PROQUEST Central](#)

[IEEE All-Society](#)

[American Physical Society Journal](#)
IOP Institute of Physics

[Institute of Physics Journals](#)

[MathSciNet](#)

[American Institute of Physics Journals](#)

[Clarivate Analytics](#)

[SCOPUS](#)
Wiley Online Library
[Wiley Journals](#)

[Science/ American Association for the Advancement of Science](#)
<http://www.anelisplus.ro/>

The IT level of Department of Chemistry and Biology is compatible with European academic environment being continuously subjected to updating. There are 27 computers in the department ([Annex A.2.1.1. Computers software](#)) equipped with licensed software both for basic programs (antivirus, operating systems) and specialized analysis programs. In addition we can mention the computers from the Library of North University Center of Baia Mare that are available for the students, master students and doctoral students ([Annex A.2.1.1. Spaces PhD students](#)).

Annexes

- [Annex A.2.1.1. Teaching spaces](#)
- [Annex A.2.1.1. Faculties spaces](#)
- [Annex A.2.1.1. Research laboratories](#)
- [Annex A.2.1.1. Laboratories didactic](#)
- [Annex A.2.1.1. Research contracts](#)
- [Annex A.2.1.1. Research groups](#)
- [Annex A.2.1.1. Agreements mobilities](#)
- [Annex A.2.1.1. Equipments 5 years](#)
- [Annex A.2.1.1. Books journals databases](#)
- [Annex A.2.1.1. Journals subscriptions exchanges](#)
- [Annex A.2.1.1. ANELIS PLUS](#)
- [Annex A.2.1.1. Computers software](#)
- [Annex A.2.1.1. Spaces PhD students](#)

A.3. Quality of Human Resource

A.3.1. At the level of each domain there are sufficient qualified staff to ensure the conduct of doctoral study program

Technical University of Cluj Napoca recruits through competition the staffs with competencies that respond to the objectives of the curricula. The competition is organized according to the national legislation and legislation of UTCN and is applied both to the selection of tenured and associated academic staff ([Annex A.3.1.1. Methodology contests TUCN.](#) [Annex A.3.1.1. Regulation associated staff](#)).

A.3.1.1. Minimum three doctoral thesis advisors within that doctoral domain, and at least 50% of them (but no less than three) meet the minimum standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) in force at the time when the evaluation is carried out, which standards are required and mandatory for obtaining the enabling certification.

The activities provided in the Curriculum of the Food Engineering doctoral program will be coordinated by **four teachers** (Table 7, [Annex A.3.1.1. Academic staff IPA doctoral program](#)), of which four are tenured to Chemistry-Biology Department and one to Mathematics Departments from Faculty of Science, Technical University of Cluj Napoca.

Table – 7. Academic staff involved in the doctoral program Food Engineering

Staff	Habilitation field	Decision document	Affiliation	Annexes
Prof.dr.eng. hab. Mihaly Cozmuța Anca	Food Engineering	Order of Ministry of National Education 3798/04.06.2018	Tenured TUCN Affiliated IOSUD-TUCN	Annex 1.2.3. Certificates Annex 1.2.3. CV Mihaly Cozmuta A Annex 1.2.3. Affiliation Annex 1.2.3. Tenured
Assoc.prof. dr.hab. Peter Anca	Food Engineering	Order of Ministry of National Education 3377/22.03.2018	Tenured TUCN Affiliated IOSUD-TUCN	Annex 1.2.3. Certificates Annex 1.2.3. CV Peter A Annex 1.2.3. Affiliation Annex 1.2.3. Tenured
Associate prof. eng. hab. Giurgiulescu Liviu	Food Engineering	Order of Ministry of National Education 3797/04.06.2018	Tenured TUCN Affiliated IOSUD-TUCN	Annex 1.2.3. Certificates Annex 1.2.3. CV Giurgiulescu L Annex 1.2.3. Affiliation Annex A.3.1.2. Tenured
Associate prof. dr. Mihaly Cozmuța Leonard	-	-	Tenured TUCN	Annex 1.2.3. CV Mihaly Cozmuta L Annex A.3.1.2. Tenured

All academic teachers habilitated in the field of Food Engineering meet at 100% the minimum standards of the National Council for Attesting the University Titles, Diplomas and Certificates (CNATDCU - OM 6129/2016- *Commission 14. Engineering of Vegetal and Animal Resources* in force at the time of the assessment (2021), necessary and compulsory for obtaining the attestation of authorization in the field of Food Engineering ([Annex A.3.1.1 Respect minimal standards](#)) (table 8).

Table-8. Centralization of meeting the minimal standards

Minimal standards According to OM 6129/20.12.2016	Minimum score required	Prof.dr.eng. Mihaly Cozmuța Anca	Assoc.prof.dr. Peter Anca	Assoc.prof. dr. Giurgulescu Liviu
<i>Comission 14. Engineering of Vegetal and Animal Resources</i>				
A1. Didactic and profesional activity	100 puncte	557.7	158.7	359.15
A2. Research activity	260 puncte	484.8	485.622	610.22
A3. Visibility and impact of activity	60 puncte	468.7	531.04	224.675
TOTAL score	420	1511.2	1175.362	1194

By analysing the data in the table 8 it can be observed that all academic staff habilitated in the field of Food Engineering (100%) have accumulated scores above the minimum score required, both for individual cumulated criteria.

Annexes

[Annex A.3.1.1. Methodology contests TUCN](#)

[Annex A.3.1.1. Regulation associated staff](#)

[Annex 1.2.3. Academic staff IPA](#)

[Annex 1.2.3. CV activity Mihaly Cozmuta A](#)

[Annex 1.2.3. CV activity Peter A](#)

[Annex 1.2.3. CV activity Giurgulescu L](#)

[Annex 1.2.3. CV activity Mihaly Cozmuta L](#)

[Annex 1.2.3. Habilitation certificates](#)

[Annex 1.2.3. Tenured TUCN](#)

[Annex 1.2.3. Meet minimal standars](#)

A.3.1.2. At least 50% of all doctoral advisors have a full-time employment contract for an indefinite period with the IOSUD.

All academic staff involved in the doctoral program Food Engineering are tenured in the Technical University of Cluj Napoca ([Annex 1.2.3. Tenured TUCN](#)).

The PhD supervisors habilitated in the field of Food Engineering are affiliated to IOSUD-TUCN by the Senate Decisions 1337, 1338, 1339/25.03.2021 ([Annex 1.2.3. Affiliation IOSUD TUCN](#)).

<https://www.utcluj.ro/media/decisions/2021/03/30/H. Senat nr. 1337 Afilierea la Scoala doctorala pt. Prof.dr.ing. M. WeV0vqO.pdf>

<https://www.utcluj.ro/media/decisions/2021/03/30/H. Senat nr. 1338 Afilierea la Scoala doctorala pt. Conf.dr. A. Peter.pdf>

<https://www.utcluj.ro/media/decisions/2021/03/30/H. Senat nr. 1339 Afilierea la Scoala doctorala pt. Conf.dr.ing. L. JsqsG1W.pdf>

Annexes

[Annex 1.2.3. Tenured TUCN](#)

[Annex 1.2.3. Affiliation IOSUD TUCN](#)

A.3.1.3. The study subjects in the education program based on advanced higher education studies pertaining to the doctoral domain are taught by teaching staff or researchers who are doctoral thesis advisors / certified doctoral thesis advisors, professors / CS I or lecturer / CS II, with proved expertise in the field of the study subjects they teach, or other specialists in the field who meet the standards established by the institution in relation with the aforementioned teaching and research functions, as provided by the law.

The disciplines in the training program of doctoral domain *Food Engineering* are coordinated by teachers having the status of Doctoral Advisor or Associate Professor with proven expertise in the disciplines taught (table 9, [1.2.3. Academic staff IPA](#); [1.2.3. Habilitation certificates](#)). Academic staff has proven expertise in the field of subjects taught as their CV and activity display ([Annex 1.2.3. CV activity Mihaly Cozmuta A](#), [Annex 1.2.3. CV activity Peter A](#), [Annex 1.2.3. CV activity Giurgiulescu L](#), [Annex 1.2.3. CV activity Mihaly Cozmuta L](#), [Annex A.3.1.3. Expertise coordinator doctorate](#)).

Table – 9. Academic staff involved in the doctoral program *Food Engineering*

Staff	Habilitation field	Decision document	Affiliation	Annexes
Prof.dr.eng. hab. Mihaly Cozmuta Anca	Food Engineering	Order of Ministry of National Education 3798/04.06.2018	Tenured TUCN Affiliated IOSUD-TUCN	Annex 1.2.3. Certificates Annex 1.2.3. CV Mihaly Cozmuta A Annex 1.2.3. Affiliation Annex 1.2.3. Tenured
Assoc.prof. dr.hab. Peter Anca	Food Engineering	Order of Ministry of National Education 3377/22.03.2018	Tenured TUCN Affiliated IOSUD-TUCN	Annex 1.2.3. Certificates Annex 1.2.3. CV Peter A Annex 1.2.3. Affiliation Annex 1.2.3. Tenured
Associate prof. eng. hab. Giurgiulescu Liviu	Food Engineering	Order of Ministry of National Education 3797/04.06.2018	Tenured TUCN Affiliated IOSUD-TUCN	Annex 1.2.3. Certificates Annex 1.2.3. CV Giurgiulescu L Annex 1.2.3. Affiliation Annex A.3.1.2. Tenured
Associate prof. dr. Mihaly Cozmuta Leonard	-	-	Tenured TUCN	Annex 1.2.3. CV Mihaly Cozmuta L Annex A.3.1.2. Tenured

Of the 4 academic teachers that will teach the disciplines in the doctoral domain *Food Engineering*, one teacher (25%) have the academic status as „Professor” and three (75%) have the academic status of „Associate professor” ([Annex 1.2.3. Tenured TUCN](#)).

Prof.dr.ing. Mihaly Cozmuța Anca of which expertise is in functional food and physical-chemical analysis of food will coordinate *Trends in human nutrition*.

Assoc. prof.dr. Peter Anca of whose expertise in the field of food packaging and methods for food preservation will coordinate the subject *Modern methods used in the food preservation*.

Assoc.prof.dr. Giurgiulescu Liviu develops its scientific research in the field of biological active compounds and will be the coordinator of the subjects *Food safety by using advances biotechnologies*. **Assoc.prof.dr. Giurgiulescu Liviu** will also coordinate the subject *Etics and academic integrity*.

Associate prof.dr. Mihaly Cozmuța Leonard has expertise in the field of chemometry/statistically processing of experimental data and will coordinate the subject *Statistics applied in nutrition*.

Annexes

[Annex 1.2.3. Academic staff IPA](#)

[Annex 1.2.3. Habilitation certificates](#)

[Annex 1.2.3. Affiliation IOSUD TUCN](#)

[Annex 1.2.3. Tenured TUCN](#)

[Annex 1.2.3. CV activity Mihaly Cozmuta A](#)

[Annex 1.2.3. CV activity Mihaly Cozmuta L](#)

[Annex 1.2.3. CV activity Peter A](#)

[Annex 1.2.3. CV activity Giurgiulescu L](#)

[Annex A.3.1.3. Expertise coordinator doctorate](#)

A.3.2. The Doctoral advisors within the domain are carrying out a scientific activity visible at international level

A.3.2.1. At least 50% of the doctoral thesis advisors in the evaluated domain have at least 5 Web of Science - or ERIH-indexed publications in magazines of impact, or other achievements of relevant significance for that domain, including international-level contributions that indicate progress in scientific research - development - innovation for the evaluated domain. The aforementioned doctoral thesis advisors enjoy international awareness within the past five years, consisting of: membership on scientific boards of international publications and conferences; membership on boards of international professional associations; guests in conferences or expert groups working abroad, or membership on doctoral defense commissions at universities abroad or co-leading with universities abroad.

All academic staff habilitatead in the field of Food Engineering **have published at least 5 papers in journals with impact factor indexed in WEB of Science with significance important in the food domain**. In these papers can be found progress in the scientific research. Below are presented five papers for each PhD supervisors, the whole list being in the [Annex A.3.2.1. Papers WEB of Science](#).

Prof. dr. eng.hab. Anca Mihaly Cozmuța

1.A.Mihaly Cozmuta, A. Jastrzębska, R. Apjok, M. Petrus, L. Mihaly Cozmuta, A. Peter, C. Nicula.

Immobilization of baker's yeast in the alginate-based hydrogels to impart sensorial characteristics to frozen dough bread. Food Bioscience 42 (2021) 101143. DOI: [10.1016/j.fbio.2021.101143](https://doi.org/10.1016/j.fbio.2021.101143)

2.A. Mihaly Cozmuta , A. Peter, L. Mihaly Cozmuta, C. Nicula, R. Apjok, G. Drazic, F. Kamgang Nzekoue, X. Huang, S. Silvi, G. Sagratini, A. Peñas, A. J. Calahorro, M. Cano - Galey, O. Hodek. Impact of packaging properties on the physical-chemical-microbiological-sensory characteristics of Ricotta cheese during storage, Packaging Technology and Science, 33 (1), 27-37, 2020. doi.org/10.1002/pts.2482

3.A. Mihaly Cozmuta, R. Apjok, A. Peter, L. Mihaly Cozmuta, C. Nicula, M. Baia, A. Vulpoi. Active papers coated with chitosan and containing TiO₂ and Ag/TiO₂ nanoparticles for increasing the shelf-life of walnut kernels, Cellulose (2018). 25(9), 5205-5225. doi.org/10.1007/s10570-018-1925-x

4.A. Mihaly-Cozmuta, A. Peter, G. Craciun, A. Falup, L. Mihaly-Cozmuta, C. Nicula, A. Vulpoi, M. Baia. Preparation and characterization of active cellulose-based papers modified with TiO₂, Ag and zeolite nanocomposites for bread packaging application, Cellulose (2017). DOI:[10.1007/s10570-017-1383-x](https://doi.org/10.1007/s10570-017-1383-x)

5. A. Mihaly Cozmuta, A. Peter, C. Nicula, L. Mihaly Cozmuta. Assessment of the effective antioxidant activity of edible films taking into account films–food simulants and films – environment interactions. Packaging Technology and Science 30 (1-2) (2017), 3–20. doi.org/10.1002/pts.2269

Assoc.prof.dr.hab. Anca Peter

1. Anca Peter, Leonard Mihaly Cozmuta, Camelia Nicula, Anca Mihaly Cozmuta, Catalina Mihaela Talasman, Goran Drazic, Antonio Peñas, Antonio Jesús Calahorro, Gianni Sagratini, Stefania Silvi. Chemical and organoleptic changes of curd cheese stored in new and reused active packaging systems made of Ag-graphene-TiO₂-PLA. Food Chemistry, 363 (2021) 130341. doi.org/10.1016/j.foodchem.2021.130341

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All PhD supervisors have international visibility in the last five years (100%), consisting of *at least* two of the next qualities: membership on scientific boards of international publications and conferences; membership on boards of international professional associations; guests in conferences or expert groups working abroad, or membership on doctoral defense commissions at universities abroad or co-leading with universities abroad, reviewers of ISI and BDI journals, high values of Hirsch index, citation in ISI and BDI journals ([Annex A.3.2.1. Proposed Patents](#), [Annex A.3.2.1. International visibility](#)).

Centralization of components associated to indicator International visibility is displayed in the table 10.

Table - 10. International visibility of Food Engineering PhD supervisors

Component	Prof.dr. eng. Mihaly Cozmuța Anca	Assoc.prof.dr. Peter Anca	Assoc. prof.dr. Giurgiulescu Liviu
Total papers in ISI journals indexed Web of Science	51	49	24
Paper in the field of Food Engineering in journals indexed Web of Science	33	49	21
Proposals of european patents – EPO	2	2	-
Proposals of national patents – OSIM	2	2	-
Membership in scientific committee of journals and international conferences	4	1	6
Membership in boards of international professional association	-	-	-
Membership on doctoral defense commissions at universities abroad	-	1	-
Invited guest in conferences or international expert groups	1	1	7
Reviewers for international ISI/BDI journals	17/12	32/14	13/7
Citations in ISI/BDI journals	744	815	136
Hirsch indexes: Google scholar; Scopus; Web of Science	16; 13; 11	17; 13; 13	7; 6; 5

Each of three academic staff habilitated in the field of Food Engineering meets 100% the requirements of both indicators of the criteria A.3.2.1.

Annexes

[Annex A.3.2.1. Papers WEB of Science](#)

[Annex A.3.2.1. Proposed Patents](#)

[Annex A.3.2.1. International visibility](#)

A.3.2.2. At least 50% of the doctoral thesis advisors in a specific doctoral study domain continue to be active in their scientific field, and acquire at least 25% of the score requested by the minimal CNATDCU standards in force at the time of the evaluation, which are required and mandatory for acquiring their enabling certificate, based on their scientific results within the past five years

The three Doctoral Advisors in the doctoral study domain Food Engineering are still carrying scientific activities. The evaluation of their scientific activity in the last five years indicates that each (100%) accumulates for both for individual and cumulative criteria **higher scores than 25% of the scores requested** by the minimum standards of the National Council for Attesting the University Titles, Diplomas and Certificates (CNATDCU)- *Commission 14. Engineering of Vegetal and Animal Resources* in force at 2021 (OM 6129/2016) compulsory for the habilitation in the Food Engineering domain ([Annex A.3.2.1. Fullfillment A.3.2.2](#)). The data are centralized in tables 11 and 12.

Table - 11. Centralization of scores accumulated by the academic staff habilitated in the Food Engineering domain before habilitation

Minimum requirements According to OM 6129/20.12.2016	Minimum required score	Prof.dr.eng. Mihaly Cozmuța Anca	Assoc.prof.dr. Peter Anca	Assoc.prof.dr.eng. Giurgiulescu Liviu
<i>Comission 14. Engineering of Vegetal and Animal Resources</i>				
A1. Didactic and professional activity	100	557.72	158.70	359.15
A2. Research activity	260	484.80	485.62	610.22
A3. Visibility and impact of activity	60	468.71	531.04	224.67
TOTAL score	420	1511.23	1175.36	1194

Table - 12. Centralization of scores accumulated by the academic staff habilitated in the Food Engineering domain after habilitation

Minimum requirements According to OM 6129/20.12.2016	Minimum required score	Prof.dr.eng. Mihaly Cozmuța Anca	Assoc.prof.dr. Peter Anca	Assoc.prof.dr.eng. Giurgiulescu Liviu
<i>Comission 14. Engineering of Vegetal and Animal Resources</i>				
A1. Didactic and professional activity	25	168.375	121.9	180
A2. Research activity	65	354.113	486.297	249.5
A3. Visibility and impact of activity	15	652.34	936.176	336.56
TOTAL score	105	1174.828	1544.373	766.06

By analyzing the scores displayed in the table 12 it can be observed that the partial and total scores accumulated by each PhD supervisor in the field of Food Engineering in the time range 2018-2021 has **acquired more than 25%** of the score requested by the *Commission 14. Engineering of Vegetal and Animal Resources* in force at 2021 (OM 6129/2016) *which are required and mandatory for acquiring their enabling certificate, based on their scientific results within the past five years*

The requirement of the indicator is fulfilled at 100% by each Doctoral Advisors in the doctoral study domain of Food Engineering

Annexes

[Annex A.3.2.1. Fullfillment A.3.2.2](#)

B. EDUCATIONAL EFFECTIVENESS

B.1. The number, quality and diversity of candidates enrolled for the admission contest

B.1.2. Candidates admitted to doctoral studies demonstrate academic, research and professional performance

B.1.2.1. Admission to doctoral study programs is based on selection criteria including: previous academic, research and professional performance, their interest for scientific or arts/sports research, publications in the domain and a proposal for a research subject. Interviewing the candidate is compulsory, as part of the admission procedure.

In Article 27 of Regulation on the organization of admission in the cycle of doctoral studies of the Technical University of Cluj - Napoca, approved in the Board of Directors of 02.02.2021 ([Annex A.1.1.1. Rules admission doctorate 2022](#)), approved by Senate Decision 1467 ([Annex A.1.1.1. H. Senate 1467 Update Rules admission doctorate 2022](#)) it is specified at Art. 27(1) that "(1) Regardless of the field, the doctoral admission competition consists of at least two tests:

- an interview in which the level of training and the scientific/professional concerns of the candidate, his research skills and the proposed topic for the doctoral thesis are analyzed,
- an examination of language proficiency in a language of international circulation (...)"

Therefore, it follows that admission to the doctoral study programs of the TUCN Doctoral School *must include an interview with the applicants.*

Admission to doctoral programs is based on selection criteria that include:

- Previous professional performance of candidates: It is discussed in the admission interview (*Admission regulations*, Art. 27 - [A.1.1.1. Rules admission doctorate 2022](#))
- Their interest in scientific or artistic/sports research: Art. 18 from *Admission regulations* ([Annex A.1.1.1. Rules admission doctorate 2022](#)) mentions among the documents required for registration, the CV

of the applicant. Based on this, the candidate's interest in research can be established, a topic that is also developed in the admission interview.

- Publications in the field: Also among the documents required for registration is the inclusion of the list of scientific papers published or communicated to demonstrate the candidate's interest in scientific research (*Admission regulation*, Art. 18 – [Annex A.1.1.1. Rules admission doctorate 2022](#)).
- A proposal of research topics: This is discussed and analyzed by the admission committee. In the minutes of the entrance exam, the commission notes that "it examined the file of the candidate, who presented his/her activity and the topic he/she wants to develop in the doctoral thesis and evaluated the result of the competition test." (Art. 27(1) – [Annex A.1.1.1. Rules admission doctorate 2022](#))
https://iosud.utcluj.ro/files/Admitere%202022/Regulamentul_de_admitere_la_doctorat_2022.pdf
https://www.utcluj.ro/media/decisions/2022/03/25/H. Senat_nr. 1467 Actualizarea Regulamentului privind organizarea_a_c2UKA2Z.pdf

Annexes

[Annex A.1.1.1. Rules admission doctorate 2022](#)

[Annex A.1.1.1. H. Senate 1319 Updating Admission Regulation](#)

B.2. The content of doctoral programs

B.2.1. The training program based on advanced university studies is appropriate to improve doctoral students' research skills and to strengthen ethical behavior in science.

B.2.1.1. The training program based on advanced academic studies includes at least 3 disciplines relevant to the scientific research training of doctoral students; at least one of these disciplines is intended to study in-depth the research methodology and/or the statistical data processing

The training program based on advanced academic studies in the doctoral domain Food Engineering covers three years and has two mandatory components according to [Art. 46](#) and [Art. 47](#) from INSTITUTIONAL REGULATION on the organisation and conduct of doctoral studies and advanced research post-doctoral programmes at the Technical University of Cluj-Napoca ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)): (1) The advanced academic training programme, within the doctoral school and (2) The individual scientific research programme ([Annex B.2.1.1. Curriculum doctorate IPA, Annex B.2.1.1. Courses outlines](#)).

During the first year of the *training programme based on advanced academic studies*, the PhD student participates in the activities of 3 complementary mandatory subjects and 2 in-depth knowledge optional subjects in the Food Engineering doctoral domain.

The complementary mandatory subjects are: *Methodology of scientific research, Academic ethic and integrity* and *Statistically processing of experimental data*.

The optional subjects are agreed upon and proposed by the PhD supervisor together with the PhD student, and they are approved by the Doctoral School Council and by the Coordination Council of the doctoral programme ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)–Art. 47(4)).

The number of ECTS accumulated by the PhD students during the entire advanced academic training programme is of 30 credits ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)-Art. 34(1)).

To ensure a coherent scientific track record for the PhD student, 5 oral presentations (research reports) delivered before the PhD supervisor and the guidance commission are planned as part of the scientific research programme ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)– Art. 52(1)): a) in the 1st year of doctoral studies, the PhD student presents the scientific research project (1st semester) and a progress report on their scientific activity (2nd semester); b) in the 2nd year of doctoral studies, the PhD student presents 2 progress reports on their scientific activity, while c) in the 3rd year of doctoral studies (1st semester), they present a progress report on their scientific activity. For the Scientific Research Project and each Scientific Research Report, the PhD student accumulates 30 credits ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020.– Art. 34\(2\)](#)). *The research project* (1st semester of the 1st year) must include the general objective and the specific objectives of the PhD thesis, the research methodology, the risk evaluation and alternative solutions, the tentative calendar of the research activities (the project's Gantt diagram), etc. The scientific and financial sustainability of the project is an essential condition ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020.– Art. 50\(2\)](#)).

http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Senat_24.09.2020.pdf

Annexes

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

[Annex B.2.1.1. Curriculum doctorate IPA Annex](#)

[B.2.1.1. Courses outlines](#)

B.2.1.2. At least one discipline is dedicated to Ethics and Intellectual Property in scientific research or there are well-defined topics on these subjects within a discipline taught in the doctoral program

The training program based on advanced academic studies of the doctoral domain *Food Engineering* includes in the 1st semester of the 1st year the discipline *Academic ethic and integrity* ([Annex B.2.1.1. Curriculum doctorate IPA, Annex B.2.1.1. Courses outlines](#)) where well-defined topics on *Ethics and Intellectual Property in scientific research* will be discussed.

Annexes

[Annex B.2.1.1. Courses outlines](#)

[Annex B.2.1.1. Curriculum doctorate IPA](#)

B.2.1.3. The IOSUD has mechanisms to ensure that the academic training program based on advanced university studies addresses „the learning outcomes”, specifying the knowledge, skills, responsibility and autonomy that doctoral students should acquire after completing each discipline or through the research activities.

INSTITUTIONAL REGULATION on the organisation and conduct of doctoral studies and advanced research post-doctoral programmes at the Technical University of Cluj-Napoca ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)) meets this indicator through the Section 4.1. Purpose and competences offered by the doctoral study programmes by mentioning to [Art. 44](#) and [Art. 45\(1,2\)](#) that the doctoral study programmes ensure the development of professional, cognitive and

research skills in specific fields, as well as the development of certain transversal competences ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)–Art. 44, Art. 45(1, 2)).

http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Senat_24.09.2020.pdf

The subjects *Methodology of scientific research, Academic ethic and integrity* and *Statistically procesing of experimental data* ensure the transversal competences while the in-depth knowledge disciplines ensure the professional competencies. The courses outlines provide the professionals and transversal competencies associated to each discipline, these deriving from general and particular objectives of each discipline ([Annex B.2.1.1. Curriculum doctorate IPA](#); [Annex B.2.1.1. Courses outlines](#)).

The subjects provided in the *Curriculum Plan of the training program based on advanced academic studies* in the Food Engineering domain are coordinated by the academic teachers with proved expertise in the field of the coordinated discipline ([Annex 1.2.3. CV activity Mihaly Cozmata A](#), [Annex 1.2.3. CV activity Peter A](#), [Annex 1.2.3. CV activity Giurgiulescu L](#), [Annex 1.2.3. CV activity Mihaly Cozmata L](#), [Annex A.3.1.3. Expertise coordinator doctorate](#)).

The guidance commissions will guided/supported/corrected the he way of acquiring the knowledge, competencies, responsibility and autonomy by the doctoral students by analyzing the scientific research project, the progress reports and the minutes associated with them ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020– Section 3.3.- Guidance of activities in the frame of doctoral studies](#)).

http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Senat_24.09.2020.pdf

Annexes

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

[Annex B.2.1.1. Curriculum doctorate IPA](#)

[Annex B.2.1.1. Courses outlines](#)

[Annex 1.2.3. CV activity Mihaly Cozmata A](#)

[Annex 1.2.3. CV activity Peter A](#)

[Annex 1.2.3. CV activity Giurgiulescu L](#)

[Annex 1.2.3. CV activity Mihaly Cozmata L](#)

[Annex A.3.1.3. Expertise coordinator doctorate](#)

C. QUALITY MANAGEMENT

C.1. Existence and periodic implementation of the internal quality assurance system

C.1.1. There are an institutional framework and procedures in place and relevant internal quality assurance policies, applied for monitoring the internal quality assurance.

C.1.1.1. The Doctoral school in the respective university study domain shall demonstrate the continuous development of the evaluation process and its internal quality assurance following a procedure developed and applied at the level of the IOSUD, the following assessed criteria being mandatory: a) the scientific work of Doctoral advisors; (b) the infrastructure and logistics necessary to carry out the research activity; (c) the procedures and subsequent rules based on which doctoral studies are organized; d) the scientific activity of doctoral students; e) the training program based on advanced academic studies of doctoral students; f) social and academic services (including for participation at different events, publishing papers etc.) and counselling made available to doctoral students.

The quality of undergraduate, master's and doctoral studies, research and community service activities are at the heart of the strategic concerns of the Technical University of Cluj-Napoca, as assumed in the **Strategic Plan 2020-2024** ([Annex C.1.1.1. Strategic Plan TUCN 2016 2020](#)).
https://www.utcluj.ro/media/decisions/2020/10/26/Plan_Strategic_UTCN.pdf

In order to achieve these goals, structures with attributions regarding quality operate within the institution, as follows:

□ The Commission for Quality Assessment and Assurance (CEAC), which monitors and coordinates the implementation of the quality function at institutional level;

<https://dac.utcluj.ro/CEAC.html>

□ Office for Quality Assurance, responsible for coordinating the quality assurance process at the educational level and assisting management in making strategic decisions regarding quality;

<https://dac.utcluj.ro/>

□ Quality managers at the level of faculties and Doctoral School, responsible for implementation.

Each of these roles operates in accordance with approved organizational and operational regulations and is based on the TUCN Quality Assurance Code. Within IOSUD, the attributions regarding the quality are accomplished by the Director of CSUD.

<https://www.utcluj.ro/universitatea/despre/informatii-publice/programe-si-strategii/>

https://www.utcluj.ro/media/decisions/2020/10/26/Plan_Strategic_UTCN.pdf

Within the TUCN Doctoral School is implemented the METHODOLOGY for self-assessment of IOSUD-TUCN activity updated, approved by the Board of Directors on 19.01.2021 and by Decision of the University Senate no. 1301 of 28.01.2021 ([Annex C.1.1.1. Metodology Selfevaluation IOSUD TUCN 28.01.2021](#)) and Senate Decision 1301 din 28.01.2021 ([Annex C.1.1.1. H. Senate nr. 1301 Updating Selfautoevaluation](#)), which is the current general framework that establishes the criteria and indicators for self-assessment of the IOSUD-TUCN activity and the assignment of responsibilities for the self-assessment process and report, which evaluates:

- (a) the scientific activity of PhD supervisors;
- (b) infrastructure and logistic required for research activity;
- (c) procedures and subsequent norms based on which the doctoral studies are organized.

At the level of the domains of the Doctoral School TUCN/IOSUD, updated versions of the *METHODOLOGY for self-assessment of the activity of TUCN Doctoral School* approved in CA 19.01.2021 ([Annex C.1.1.1. Metodology Selfevaluation IOSUD TUCN 28.01.2021](#)) have been implemented as follow: Metodology for self evaluation of Doctoral School approved in CA at 10.01.2021 ([Annex C.1.1.1. Metodology selfevaluation Doctoral School TUCN 28.01.2021](#)), Methodology for self evaluation of IOSUD-TUCN updated ([Annex C.1.1.1. Metodology selfevaluation IOSUD-TUCN 11.05.2021](#)) approved in CA in 11.05.2021 by Senated Decision 1354/27.05.2021

([Annex C.1.1.1. H. Senate 1354 Methodology selfevaluation](#)), Methodology for self evaluation of doctoral domains within Doctoral School approved in CA at 11.05.2021 ([Annex C.1.1.1. Methodology selfevaluation doctoral domains](#)) approved by Senate Decision 1355/27.05.2021 ([Annex C.1.1.1. H. Senate 1355 Methodology selfevaluation updating](#)),

targeting:

- (a) the scientific activity of PhD Supervisors;
- (b) the infrastructure and logistics necessary for carrying out the research activity;
- (c) the procedures and subsequent rules on the basis of which the doctoral studies are organized;
- (d) the scientific activity of doctoral students;
- (e) the training program based on advanced university studies of doctoral students.

In accordance with Article 3, the assessment shall be carried out periodically in accordance with the regulations in force:

<https://www.utcluj.ro/media/decisions/2021/05/28/H. Senat nr. 1354 Actualizarea Metodologiei de a utoeval. a activit. 7ckGaTF.pdf>

https://www.utcluj.ro/media/decisions/2021/05/28/Metodologie_autoevaluare_a__IOSUD-UTCN.pdf

<https://www.utcluj.ro/media/decisions/2021/02/01/H. Senat nr. 1301 Actualizarea Metodologiei de a utoeval. a activit. M85BEdo.pdf>

<https://www.utcluj.ro/media/decisions/2021/02/01/H. Senat nr. 1302 Actualizarea Metodologiei de a utoeval. a activit. t3CN5Sv.pdf>

https://iosud.utcluj.ro/files/Files/Legilsatie%202021/Metodologie%20autoevaluare%20IOSUD-UTCN_28.01.2021.pdf

https://iosud.utcluj.ro/files/Files/Legilsatie%202021/Metodologie%20autoevaluare%20Sc.%20Doctorala%20UTCN_28.01.2021.pdf

https://www.utcluj.ro/media/decisions/2021/05/28/Metodologie_autoevaluare_a IOSUD-UTCN.pdf

<https://www.utcluj.ro/media/decisions/2019/02/07/H. Senat nr. 1021 Metodologia de autoevaluare a activ. Sc. Doctorale.pdf>

This methodology (in the version approved by the Board of Directors on 15.01.2019 - **Decision of the University Senate no. 1021 of 31.01.2019** – [Annex C.1.1.1. H. Senate 1021 Methodology selfevaluation Doctoral School](#)) was applied between November 2018 - December 2019, generating specific summary reports at the level of doctoral studies. The updated methodology was implemented between February 19th and March 5th, 2021 ([Annex C.1.1.1. MetodologY selfevaluation IOSUD-TUCN 11.05.2021](#)).

The 2019 evaluation process consisted of filling-in by the PhD Supervisors of the *PhD supervisors' self-assessment form 2018* and of filling-in by their doctoral students a *Self-assessment file for doctoral students 2018*. The files were developed according to the system of criteria, standards and performance indicators used in the accreditation and periodic evaluation of the fields of doctoral studies (according to **O.M. no. 5403/2018 on establishing the Methodology for the evaluation of doctoral studies and the systems of criteria, standards and performance indicators used in the evaluation**) emphasizing the reporting of scientific activity.

A commission was established in each field, which carried out the verification of the PhD Supervisors' files (by **CA decision no. 97 from 20.11.2018** – [Annex C.1.1.1. HCA 97 20 november2018](#)). Officials appointed by **CA decision no. 98 from 20.11.2018** ([Annex C.1.1.1. HCA 98 20 november2018](#)) carried out the collection and centralization of the documents, elaborating a *Summary Report* on each field ([Annex C.1.1.1. Report selfevaluation 2018](#)).

Also, a questionnaire was applied between 28.01.2019-01.02.2019 for doctoral students in internships in all

fields. The analyzed results can be found in the [Annex C.1.1.1 Report f. drd. 2019.](http://iosud.utcluj.ro/hotarari-si-decizii-utcn.html)
<http://iosud.utcluj.ro/hotarari-si-decizii-utcn.html>

The **2021 evaluation process** consisted of filling-in by the PhD Supervisors of the *PhD supervisors' self-assessment form 2021* and of filling-in by their doctoral students a *Self-assessment file for doctoral students 2021*. The files were developed according to the system of criteria, standards and performance indicators used in the accreditation and periodic evaluation of the fields of doctoral studies (according to **O.M. no. 3200/2020 on establishing the Methodology for the evaluation of doctoral studies and the systems of criteria, standards and performance indicators used in the evaluation**) emphasizing the reporting of scientific activity. A commission was established in each field, which carried out the verification of the PhD Supervisors' files (**by CA decision no. 21 from 16.02.2021 – [Annex C.1.1.1. HCA 21 16.02.21 commission check standards](http://iosud.utcluj.ro/hotarari-si-decizii-utcn.html)**).

Officials appointed by **CA decision no. 22 from 16.02.2021** carried out the collection and centralization of the documents, elaborating a *Summary Report* on each field ([Annex C.1.1.1. HCA 22 din 16.02.21 responsables evaluation](http://iosud.utcluj.ro/hotarari-si-decizii-utcn.html)). The final report is attached under the name of [Annex C.1.1.1. Report self evaluation 2021.](http://iosud.utcluj.ro/hotarari-si-decizii-utcn.html)
https://www.aracis.ro/wp-content/uploads/2020/04/Anexe_ordinul-3200-din-7-Feb.-2020.pdf
<http://iosud.utcluj.ro/hotarari-si-decizii-utcn.html>

Also, a questionnaire was applied between 19.02.2021-26.02.2021 for doctoral students in internships in all fields. Comparing the results of the two questionnaires, there is an increase in quality in terms of doctoral study programs and activities within TUCN Doctoral School ([Annex C.1.1.1 Report f. drd. 2021](http://iosud.utcluj.ro/hotarari-si-decizii-utcn.html)).

Comparing the results of the two questionnaires, there is an increase in quality in terms of doctoral study programs and activities within TUCN Doctoral School. 71.1% (2021) compared to 64.7% (2019) of doctoral students who answered the questionnaire say they are very satisfied with the extent to which they were supported by TUCN staff in the first year of studies for integration in activities specific to doctoral studies.

In question 2 of the questionnaire on the subjects of the training program based on advanced university studies, a percentage of 61.5% (2021) compared to 52.1% (2019) considered that the subjects of the PPUA ensured them at a very high level the knowledge and skills necessary to carry out the doctoral research activity. Most doctoral students (65.6% -2021/61.6% -2019) consider that they are very well informed regarding the aspects of research methodology and statistical data processing (question 8). 75.2% -2021 compared to 69.2% -2019 doctoral students consider that they are very well informed regarding the observance of scientific and university ethics (question 9).

Questions 3, 4 and 7 concerned the degree of satisfaction regarding the involvement of the doctoral coordinator and the guidance committee regarding the guidance of doctoral student and the monitoring of his/her scientific activity, which presented similar results of the two questionnaires (79.4% - 2021/79.8% - 2019 to question 3, 78.4% -2021/72.9% -2019 to question 4, 75.7% -2021/76% -2019 to question 7).

Question 10 asks for feedback on how they were informed and verified about the procedures on which doctoral studies are organized

In questions 5 and 6 of the questionnaire, the involvement of the PhD Supervisor and of the faculty where the doctoral student carries out his/her activity in ensuring the research conditions was verified:

- for 2019 the doctoral students consider that they had a good (56 - 19.2%) and very good (200 - 68.5%) involvement from the scientific leader and the faculty in ensuring the research conditions for 2019

- for 2021, the doctoral students consider that they had a good (37 - 17%) and very good (152 - 69.7%) involvement from the scientific leader and the faculty in ensuring the research conditions.

The mechanisms for analyzing the content of doctoral university studies are regulated by the **Regulations of the Doctoral School of the Technical University of Cluj Napoca within TUCN-IOSUD** ([Annex A.1.1.1. Regulation Doctoral School TUCN](#)) , aproved in CSUD meeting on 23.01.2019 and in CA of 23.01.2019, art. 9, para. (11), (12) and by the **Operational procedure regarding the achievement of qualification level 8 according to National Framework (CNC) and European Qualifications Framework (EQF)** ([Annex C.1.1.1. Procedure qualification level 8](#)), approved in CA of 06.04.2021 (revised edition in CA of 11.05.2021 – [Annex C.1.1.1. Procedure qualification level 8 11.05.21](#)), which verifies the correspondence of the content of doctoral studies program with level 8 of qualification according to National qualification framework.

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

<http://iosud.utcluj.ro/files/Files/Legilsatie%202021/Procedura%20asigurarea%20indeplinirii%20calificarii%20nivel%208.pdf>

http://iosud.utcluj.ro/files/Files/Legilsatie%202021/Procedura%20asigurarea%20indeplinirii%20calificarii%20nivel%208_11.05.21.pdf

With the publication of the new **Order no. 3651 of April 12, 2021** ([Annex C.1.1.1. Order 3651 april 2021](#)) regarding the approval of the evaluation *Methodology for doctoral studies and the system criteria, standards and performance indicators used in the evaluation process*, published in the Official Gazette no. 414 of April 20, 2021, the CSUD director proposed to update the self-assessment Methodology according to the new specifications. The Annexes contain the updated Methodologies, which are approved during CA meeting of 11.05.2021 ([Annex C.1.1.1. Methodology evaluation IOSUD TUCN 28.01.2021](#), [Annex C.1.1.1. Metodology selfevaluation Doctoral School TUCN 28.01.2021](#), [Annex C.1.1.1. Metodology selfevaluation IOSUD-TUCN 11.05.2021](#), [Annex C.1.1.1. Methodology selfevaluation doctoral domains](#)) and which are to be approved by University Senate.

https://www.utcluj.ro/media/decisions/2021/05/28/Metodologie_autoevaluare_a_IOSUD-UTCN.pdf

http://iosud.utcluj.ro/files/Files/Legilsatie%202021/Metodologie%20autoevaluare%20Sc.%20Doctorala%20UTCN_28.01.2021.pdf

https://www.utcluj.ro/media/decisions/2021/05/28/Metodologie_autoevaluare_a_IOSUD-UTCN.pdf

Related to the new specification of Order 3651/2021, we can mention the following developed procedures or measures taken at the level of TUCN-IOSUD so far:

Counseling services:

The methodology regarding the organization and functioning of Career Counseling and Guidance Center (CCOC) within the Technical University of Cluj-Napoca, approved by [HSU 379/20.02.2012](#) ([Annex C.1.1.1. H. Senate 379 metodology CCOC](#)) specifies in art. 6(b) that the activity of CCOC is oriented towards the reduction of university dropout. Within the Career Counseling and Guidance Center all university students, regardless their study cycle, freely benefit from psychological counseling services, which are addressed to anyone who wants to better understand the life situations and the problems they face and which can provide the necessary support to overcome some obstacles, including university dropout ([Annex C.1.1.1. CCOC Social help](#)).

<https://www.utcluj.ro/ococ/>

<https://www.escouniv.ro/consiliere-online>

Social support:

According to the **Regulation on organizing and functioning of TUCN** student dormitories ([Annex C.1.1.1 Regulation dormitories TUCN](#)), doctoral students benefit from accommodation in TUCN places. Art. 8 of the Regulation emphasize the special cases that are considered for accommodation: orphan doctoral students, students from orphanages and family placement, those with health problems and students originating from low-income families.

https://www.utcluj.ro/media/decisions/2021/07/23/ROF_Camine_Cantine_studentesti_ale_UTCN.pdf

IOSUD-TUCN has a fee reduction policy for disadvantaged students. The university offers 50% - 100% fee reduction, exemption from paying dormitory fees, free meal card ([Annex C.1.1.1. HCA 100 2020](#)) for students coming from orphanages and family placement and for orphan students.

Academic support (including participation to various scientific events, publication of articles and so on):

PhD students benefit from academic support provided within TUCN-IOSUD by various services or departments. On **IOSUD-UTCN** website, managed by Secretariat of IOSUD, in collaboration with TUCN Doctoral School, there are announcements regarding various programs/grants/publications that may be of interest to students:

<http://iosud.utcluj.ro/burse.html>

Information regarding projects for doctoral students or postdoctoral researchers, like **Antredoc project**, can also be found on IOSUD website:

<https://antredoc.utcluj.ro/>

<http://iosud.utcluj.ro/>

<http://iosud.utcluj.ro/program-postdoctoral.html>

https://www.utcluj.ro/media/decisions/2021/02/01/H_Senat_nr_1296_Regulament_privind_infiintarea_spin_off_urilor_in_UTCN.pdf

<https://iosud.utcluj.ro/stagiul-de-doctorat.html>

Doctoral students received financial and academic support for publications in different ways, such as:

HCA Decision no. 76 of September 6, 2016 – granting scholarships from own income ([Annex C.1.1.1. HCA 76-06.09.2016](#))

HCA 21_05_02_2019 - granting scholarships for published papers ([Annex C.1.1.1. HCA 21_05_02_2019 grants](#))

HCA 15_13.02.2018- granting scholarships for publications ([Annex C.1.1.1. HCA 15_13.02.2018 grants](#))

Senate University Decision no. 1296 of 28.01.2021 – Regulations on establishment, support and monitoring spin-offs within the Technical University of Cluj-Napoca – for doctoral students employed in spin-offs ([Annex C.1.1.1. H. Senate 1296 spin off TUCN](#))

HCA Decision no. 23 of 16.02.2021 for research support funds ([Annex C.1.1.1. HCA 23 2021](#))

HCA Decision no. 15 of 26.01.2016 – regarding international travel reimbursement for all the employees and doctoral students ([Annex C.1.1.1. HCA 15 2016](#)).

<https://research.utcluj.ro/index.php/granturi-suport-de-cercetare-stiintifica.html>

<http://iosud.utcluj.ro/hotarari-si-decizii-utcen.html>

In the **TUCN Strategic Plan 2020-2024**, approved by **HSU 1253 / 22.10.2020** ([Annex C.1.1.1. Strategic Plan TUCN 2020 2024](#)) we can observe the actions, results indicators and the proposed measures for doctoral, postdoctoral and post-university education applied, among which we mention: increasing the financial support provided to doctoral students/postdoctoral researchers by accessing new projects within *Human Capital Operational Program 2021-2027*, and/or through excellence scholarships

awarded from own income or private scholarships; awarding support grants in the first three years after the employment in the University of those who complete their doctoral/postdoctoral studies; encouraging doctoral students to participate in prestigious scientific events, to publish in BDI-indexed journals, by awarding support grants in order to meet the criteria for defending doctoral theses and increasing the completion studies rate; organizing an annual international conference of the Doctoral School, around partners universities in Eut+ network.

https://www.utcluj.ro/media/decisions/2020/10/26/Plan_Strategic_UTCN.pdf

[https://www.utcluj.ro/media/decisions/2020/10/26/H. Senat nr. 1253 Planul Strategic al UTCN pe perioada 2020 2024.pdf](https://www.utcluj.ro/media/decisions/2020/10/26/H._Senat_nr._1253_Planul_Strategic_al_UTCN_pe_perioada_2020_2024.pdf)

Therefore, the scientific activity of PhD Supervisors and doctoral students was evaluated by periodically applying the Self-Assessment Files ([Annex C.1.1.1. Report selfevaluation 2018](#); [C.1.1.1. Report self evaluation 2021](#)). Feedback on the training program based on advanced university studies of doctoral students, monitoring the application of regulations and procedures on which doctoral studies are organized and feedback on the infrastructure and logistics necessary for conducting research was obtained by applying the Feedback Collection Questionnaire from doctoral students in 2019 and 2021. The content of doctoral university studies program, as corresponding to qualification level 8 according to National qualification framework is verified through the **Operational procedure regarding the achievement** ([Annex C.1.1.1. Procedure qualification level 8](#)) and revised ([Annex C.1.1.1. Procedure qualification level 8 11.05.21](#)). There are different procedures and measures taken at IOSUD-TUCN level which provide social and academic support services (including participating at scientific events, article publications and so on) and counseling for doctoral students. The methodologies for evaluation and internal monitoring of the activities within the doctoral schools are periodically updated, depending on the new legislation.

Annexes:

[Annex C.1.1.1. Strategic PPlan TUCN 2020 2024](#)

[Annex C.1.1.1. Metodologie autoevaluare IOSUD-UTCN 28.01.2021](#)

[Annex C.1.1.1. H. Senate nr. 1301 Updating Selfautoevaluation](#)

[Annex C.1.1.1. Metodology selfevaluation IOSUD-TUCN 11.05.2021](#)

[Annex C.1.1.1. H. Senate 1354 Methodology selfevaluation](#)

[Annex C.1.1.1. Methodology selfevaluation doctoral domains](#)

[Annex C.1.1.1. H. Senate 1355 Methodology selfevaluation updating](#)

[Annex C.1.1.1. H. Senate 1021 Metodology selfevaluation Doctoral School](#)

[Annex C.1.1.1. HCA 97 20 november2018](#)

[Annex C.1.1.1. HCA 98 20 november2018](#)

[Annex C.1.1.1. Report selfevaluation 2018](#)

[Annex C.1.1.1. Report self evaluation 2021](#)

[Annex C.1.1.1. Sheet selfevaluation CDR 2021](#)

[Annex C.1.1.1. Sheet selfevaluation CDR 2018](#)

[Annex C.1.1.1. Sheet selfevaluation DRD 21](#)

[Annex C.1.1.1. Sheet selfevaluation DRD 2018](#)

[Annex C.1.1.1 Report f. drd. 2019](#)

[Annex C.1.1.1 Report f. drd. 2021](#)

[Annex C.1.1.1. HCA 21 05 02 2019 grants](#)

[Annex A.1.1.1. Regulation Doctoral School TUCN](#)

[Annex C.1.1.1. Procedure qualification level 8](#)

[Annex C.1.1.1. Procedure qualification level 8 11.05.21](#)

[Annex C.1.1.1. Order 3651 april 2021](#)

[Annex C.1.1.1. H. Senate 379 metodology CCOC](#)

[Annex C.1.1.1. CCOC Social help](#)

[Annex C.1.1.1. HCA 76-06.09.2016](#)

[Annex C.1.1.1. HCA 21 16.02.21 commission check standards](#)

[Annex C.1.1.1. HCA 15 13.02.2018 grants](#)
[Annex C.1.1.1. H. Senate 1296 spin off TUCN](#)
[Annex C.1.1.1. HCA 23 2021](#)
[Annex C.1.1.1. HCA 15 2016](#)
[Annex C.1.1.1. H. Senat nr. 1253 Planul Strategic al UTCN pe perioada 2020 2024](#)

C.1.1.2. Mechanisms are implemented during the stage of the doctoral study program to enable feedback from doctoral students allowing to identify their needs, as well as their overall level of satisfaction with the doctoral study program in order to ensure continuous improvement of the academic and administrative processes. Following the analysis of the results, there is evidence that an action plan was drafted and implemented.

Regulation for doctoral studies of TUCN ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#) - Art. 73(1)) mentions that CSUD identifies critical processes for quality assurance in doctoral activity in UTCN and collaborates with the quality assurance department at UTCN in drawing up and implementing the necessary procedures keeping them under control, as well as continuously improving these processes. The identification of the immediate needs of doctoral students is made following their meetings with the doctoral coordinator and the members of the guidance committee. http://iosud.utcluj.ro/files/Legislatie/Regulamente-mai-iunie%202020/REGULAMENT_Institutional_Doctorat_mai%202020.pdf

Also, during the doctoral stage, evaluation mechanisms are implemented that aim to identify the needs / level of satisfaction of doctoral students towards the university study program. These consist in completing some questionnaires by all doctoral students ([Annex C.1.1.1. Sheet selfevaluation DRD 2018](#); [Annex C.1.1.1. Sheet selfevaluation DRD 21](#)). Feedback on the training program based on advanced university studies of doctoral students, monitoring the application of regulations and procedures based on which doctoral studies are organized and feedback on infrastructure and logistics necessary for conducting research were obtained by applying the Collection Questionnaire feedback from students - PhD students in 2019 and 2021.

Comparing the results of the two questionnaires ([Annex C.1.1.1 Report f. drd. 2019](#); [Annex C.1.1.1 Report f. drd. 2021](#)), there is an increase in quality in terms of doctoral study programs and activities within TUCN Doctoral School. 71.1% (2021) compared to 64.7% (2019) of doctoral students who answered the questionnaire say they are very satisfied with the extent to which they were supported by TUCN staff in the first year of studies for integration in activities specific to doctoral studies.

In question 2 of the questionnaire on the subjects of the training program based on advanced university studies, a percentage of 61.5% (2021) compared to 52.1% (2019) considered that the subjects of the PPUA ensured them at a very high level the knowledge and skills necessary to carry out the doctoral research activity. Most doctoral students (65.6% -2021/61.6% -2019) consider that they are very well informed regarding the aspects of research methodology and statistical data processing (question 8). 75.2% -2021 compared to 69.2% -2019 doctoral students consider that they are very well informed regarding the observance of scientific and university ethics (question 9).

Questions 3, 4 and 7 concerned the degree of satisfaction regarding the involvement of the doctoral coordinator and the guidance committee regarding the guidance of doctoral student and the monitoring of his/her scientific activity, which presented similar results of the two questionnaires (79.4% - 2021/79.8% - 2019 to question 3, 78.4% -2021/72.9% -2019 to question 4, 75.7% -2021/76% -2019 to question 7).

Question 10 asks for feedback on how they were informed and verified about the procedures on which doctoral studies are organized

In questions 5 and 6 of the questionnaire, the involvement of the PhD Supervisor and of the faculty where the doctoral student carries out his/her activity in ensuring the research conditions was verified:

-for 2019 the doctoral students consider that they had a good (56 - 19.2%) and very good (200 - 68.5%) involvement from the scientific leader and the faculty in ensuring the research conditions for 2019

-for 2021, the doctoral students consider that they had a good (37 - 17%) and very good (152 - 69.7%) involvement from the scientific leader and the faculty in ensuring the research conditions

The results obtained have been processed and expressed in the form of a report that will contribute to the development of operational plans that mention team leaders, results, measurable impact indicators and duration, which aim to improve academic and administrative regulations ([Annex C.1.1.1. Plan Operational 2020 2021](#), [Annex C.1.1.1. Strategic Plan TUCN 2016 2020](#), [Annex C.1.1.1. Strategic Plan TUCN 2020 2024](#)).

https://www.utcluj.ro/media/decisions/2020/10/26/Plan_Strategic_UTCN.pdf

https://www.utcluj.ro/media/decisions/2020/12/14/Planul_Operational.pdf

Annexes

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

[Annex C.1.1.1. Sheet selfevaluation DRD 2018;](#)

[Annex C.1.1.1. Sheet selfevaluation DRD 21](#)

[Annex C.1.1.1 Report f. drd. 2019](#)

[Annex C.1.1.1 Report f. drd. 2021](#)

[Annex C.1.1.1. Strategic Plan TUCN 2016 2020](#)

[Annex C.1.1.1. Strategic PPlan TUCN 2020 2024](#)

[Annex C.1.1.1. Plan Operational 2020 2021](#)

C.2. Transparency of information and accessibility of learning resources

C.2.1. Information of interest to doctoral students, future candidates and public interest information is available for electronic format consultation

C.2.1.1. The IOSUD publishes on the website of the organizing institution, in compliance with the general regulations on data protection, information such as: (a) the Doctoral School regulation; (b) the admission regulation; the doctoral studies contract; (d) the study completion regulation including the procedure for the public presentation of the thesis; (e) the content of training program based on advanced academic studies; (f) the academic and scientific profile, thematic areas/research themes of the Doctoral advisors within the domain, as well as their institutional contact data; (g) the list of doctoral students within the domain with necessary information (year of registration; advisor); (h) information on the standards for developing the doctoral thesis; (i) links to the doctoral theses'

summaries to be publicly presented and the date, time, place where they will be presented; this information will be communicated at least twenty days before the presentation.

The IOSUD-TUCN web platform <http://iosud.utcluj.ro/> addresses to doctoral students of the Technical University of Cluj Napoca. It publishes information about:

-Regulations of the Doctoral School of the Technical University of Cluj-Napoca within IOSUD-TUCN may be consulted on:

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf

-The regulation regarding the organization of admission in the cycle of doctoral studies in the Technical University of Cluj-Napoca can be found on the page dedicated to the doctoral admission.

<http://iosud.utcluj.ro/admitere.html>

-The doctoral study agreement can be found on the page dedicated to doctoral admission. <http://iosud.utcluj.ro/admitere.html>

-Institutional Regulation ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)) contains information on the completion of studies in Chapter 5, and *The procedure regarding the completion of doctoral studies within IOSUD-TUCN* ([Annex A.1.1.1. H. Senate 1236 Defence studies Updated](#)), Operational procedure for the doctoral studies defence within IOSUD-TUCN, Ed. II, Revision I ([Annex A.1.1.1. Procedure defense thesis 22.02.2022](#)) approved by CA in 22.02.2022 ([A.1.1.1. Bulletin 140 CA](#)). The documents are available on websites:

<http://iosud.utcluj.ro/regulamente.html>

<http://iosud.utcluj.ro/sustinerea-tezei-de-doctorat.html>

[https://iosud.utcluj.ro/files/Files/EN-](https://iosud.utcluj.ro/files/Files/EN-Files/Sustinerea%20tezei%20de%20doctorat/Procedura%20sustinere%20teza_Editia%20II_Revizia%201_CA_22.02.22.pdf)

[Files/Sustinerea%20tezei%20de%20doctorat/Procedura%20sustinere%20teza_Editia%20II_Revizia%201_CA_22.02.22.pdf](https://iosud.utcluj.ro/files/Files/EN-Files/Sustinerea%20tezei%20de%20doctorat/Procedura%20sustinere%20teza_Editia%20II_Revizia%201_CA_22.02.22.pdf)

https://www.utcluj.ro/media/page_document/260/Buletin_informativ_140_CA.pdf

-Information on the elaboration standards of the doctoral thesis:

<http://iosud.utcluj.ro/sustinerea-tezei-de-doctorat.html>

The web page dedicated to the doctoral school is:

<http://iosud.utcluj.ro/scoli-doctorale-146.html>

Through it you can access the pages of the Doctoral Program Coordination Councils, where information is displayed on:

-the content of study programs;

-the scientific profile and thematic areas/research topics of the PhD Supervisors in the school, as well as their institutional contact data;

<https://iosud.utcluj.ro/scoli-doctorale-146.html>

<https://iosud.utcluj.ro/admitere.html>

-list of doctoral students in the school with basic information (year of enrollment; leader); <https://iosud.utcluj.ro/scoli-doctorale-146.html>

- informations about the standards that should be met in the development of doctoral thesis; <https://iosud.utcluj.ro/sustinerea-tezei-de-doctorat.html>

-links to the abstracts of doctoral thesis that will be public defended, time and data of their defense, published with at least 20 days before the event. <https://iosud.utcluj.ro/sustinerea-tezei-de-doctorat.html>

Addresses of the websites of Coordination Councils are presented in table13:

Table - 13. Addresses of the websites of Coordination Councils

Doctoral Program Coordination Council	Doctoral fields	Information
Architecture and Urban planning	Architecture	https://fau.utcluj.ro/scoala-doctorala-de-arhitectura-si-urbanism.html
Automation and Computers	System engineering	
	Computers and information technology	https://ac.utcluj.ro/scoala-doctorala.html
Constructions and installations	Civil engineering and installations	https://constructii.utcluj.ro/scoala-doctorala.html
Electronics, telecommunications and information technology	Electronic engineering, telecommunications and information technology	https://etti.utcluj.ro/scoala-doctorala.html
Materials and environmental engineering	Materials engineering Environmental engineering	https://sdimm.utcluj.ro/
Electrical engineering	Electrical engineering	https://ie.utcluj.ro/scoala-doctorala-89.html
Industrial engineering and management	Industrial engineering Engineering and management	https://cm.utcluj.ro/scoala-doctorala.html
Mechanical and mechatronics engineering	Mechanical engineering	https://mecanica.utcluj.ro/scoala-doctorala.html
Applied sciences	Mathematics	http://phdmath.utcluj.ro/
Humanities	Philology Philosophy	http://litere.cunbm.utcluj.ro/doctorat/

On IOSUD-TUCN website, on announcements section there are published doctoral students opportunities, such as conferences organized by other universities, scholarships. Also, the page is dedicated to scholarship offers for doctoral students.

<http://iosud.utcluj.ro/anunturi.html>

The abstracts of the doctoral theses to be defended publicly, as well as the date, time and place where they are to be defended are currently uploaded, at least 20 days before the defence, on web platform, which also contains the online admission module.

<https://doctorat.utcluj.ro/>

Annexes:

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

[Annex A.1.1.1. H. Senate 1236 Defence studies Updated](#)

[Annex A.1.1.1. Procedure defense thesis 22.02.2022 Annex](#)

[A.1.1.1. Bulletin 140 CA](#)

C.2.2. The IOSUD/The Doctoral School provides doctoral students with access to the resources needed for conducting doctoral studies

C.2.2.1. All doctoral students have free access to one platform providing academic databases relevant to the doctoral studies domain of their thesis.

All the doctoral students within IOSUD-UTCN benefit from free electronic access to the scientific and research literature through the Anelis Plus portal, according to CA *Decision* 9/15.01.2019 ([Annex A.2.1.1. ANELIS PLUS](#)). On this platform you will find the most important international databases: Science Direct, Springer Link Journals, American Institute of Physics, PROQUEST Central, Oxford Journals, Nature, Wiley Journals, etc. On 23.10.2017, IOSUD-TUCN signed a subsidiary agreement to extend the implementation period of the ANELIS PLUS 2020 project, an agreement valid until 23.10.2022.

The access of doctoral students is allowed permanently, based on account and password, from anywhere, free of charge. Access to the Anelis Plus portal is possible for all employees and students who have an e-mail account on the servers of the Technical University. Authentication is achieved with the email user or email address, and the email account password in TUCN. People who have multiple email aliases should use the email user.

http://iosud.utcluj.ro/files/Legislatie/Hotarare_CA_9_din%2015.01.2019.pdf

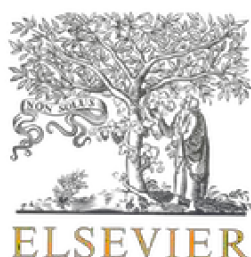
TUCN doctoral students have access to generalist databases, with publications relevant to the field (e.g. databases of major publishers (e.g. Wiley, Elsevier, etc.) or integrative type (Ebsco, ProQuest, Web of Science, Scopus, etc.):

Technical University of Cluj-Napoca:

- Science Direct Freedom Collection Journals
- SpringerLink Journals
- Clarivate Analytics
- American Institute of Physics Journals
- ProQuest Central
- IEEE IEL
- Scopus
- Wiley Journals
- Institute of Physics Journals
- MatSciNet
- SCIENCE AAAS
- Nature

List of electronic resources available through the AnelisPlus project:

<http://www.anelisplus.ro/wp-content/uploads/2018/06/untitled-2.html>



[Science Direct](#)

[Springerlink Journals](#)

[PROQUEST Central](#)

[IEEE All-Society](#)



IOP Institute of Physics

AMERICAN MATHEMATICAL SOCIETY
MathSciNet
Mathematical Reviews



[American Physical Society Journals](#)

[Institute of Physics Journals](#)

[MathSciNet](#)

[American Institute of Physics Journals](#)



Wiley Online Library



[Clarivate Analytics](#)

[SCOPUS](#)

[Wiley Journals](#)

[Science/ American Association for the Advancement of Science](#)

<http://www.anelisplus.ro/>

To conclude, TUCN-IOSUD, through TUCN Doctoral School, ensures its students free access to the scientific literature.

Annexes:

[Annex A.2.1.1. ANELIS PLUS](#)

C.2.2.2. Each doctoral student shall have access, upon request, to an electronic system for verifying the degree of similarity with other existing scientific or artistic works.

Aiming to verify the originality of scientific papers, research reports and doctoral theses, starting with 2016, the Turnitin anti-plagiarism software is used, to which access has been created for all PhD Supervisors:

<http://turnitin.com/ro/>

https://www.utcluj.ro/media/page_document/287/ORDIN_3485_24-03-2016.pdf

The way of working with the Turnitin software is specified in the **Regulations of the Doctoral School of the Technical University of Cluj-Napoca within IOSUD-UTCN**, at art. (15): "The UTCN Doctoral School must carry out the anti-plagiarism check (through the TURNITIN software provided by UTCN) ([Annex A.1.1.1. Regulation Doctoral School TUCN](#)) and release the similitude report through the member of Coordination Council of the concerned domain, and the typical procedure to be followed for the verification of the doctoral thesis is detailed in the **Anti plagiarism Procedure** ([Annex A.1.2.1. Anti plagiarism procedure](#)) and the Procedure for completing doctoral studies within IOSUD-UTCN ([Annex A.1.1.1. H. Senate 1236 Defence studies Updated](#)), Strategy to prevent and combat plagiarism in TUCN approved by CA in 19.10.2021 ([Annex A.1.1.1. Strategy TUCN plagiarism-CA](#)) and Procedure regarding the compliance of academic ethics and deontology during of doctoral thesis development (1990-2016) within IOSUD-TUCN approved in CA 19.10.2021 ([Annex A.1.1.1. Procedure checking thesis CA 19.10.2021](#)).

https://iosud.utcluj.ro/files/Files/Legislative%202021/Procedura%20verificare%20teze_CA_19.10.2021.pdf
https://iosud.utcluj.ro/files/Files/EN-Files/Legislative/Strategia_UTCN_plagiat%20-%20CA.pdf
http://iosud.utcluj.ro/files/Legislative/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CS_UD_23.01.19.pdf
https://instalatii.utcluj.ro/files/Acasa/Site/Finalizare%20studii/20210407_PO%20Verificare%20anti-plagiat.PDF
http://iosud.utcluj.ro/files/Files/Legislative%202020/Procedura%20sustinere%20teza_aprobat_Senat_24.09.2020.pdf

Turnitin is an application used to detect and discourage plagiarism, designed for instructors (teachers, mentors). For each paper posted as a topic/assignment on Turnitin, it generates a similarity report that can be used by the instructor to identify plagiarism. The work papers can be reviewed and sent back for verification. The similarity report compares the text sent for verification with the documents in its database, as well as with pages available on the Internet - books, magazines, publications - and selects similar pieces of text. The resulting similarity score is a percentage of the content of the document to be verified similar to texts in the database verified by Turnitin. Each fragment for which a similarity was found is presented in the report with the information on the source of the identical fragment.

Turnitin does not automatically detect plagiarism, only identical pieces of text. Ultimately, it is up to the instructor to interpret the similarity report returned by Turnitin.

The following must be taken into account:

- Turnitin may not browse all sites on the Internet or may not distinguish citations.
- The similarity report does not detect plagiarized ideas or concepts, nor the content expressed by a totally reformulated text.
- Turnitin can be used as a verification tool, highlighting fragments that could be a problem related to possible plagiarism.

Turnitin works structured on Instructors, class and homework/ assignment. The typical steps to follow, once the instructor has an account created in Turnitin are:

- defining a class (some classes) and establishing the parameters that characterize the class, the parameters that will apply to all topics defined in that class.
- the definition of an Assignment, in which the work to be verified will be sent.

When defining an assignment, it is recommended to go through "Optional Settings" and take into account the following filters:

- excludes small sources,
- excludes quotes and bibliography,
- excludes full sources (allows re-evaluation of the paper),
- generate a new similarity report - allows the repeated generation of similarity reports for the same work paper.

Turnitin encodes by colors the level of similarity resulting from the verification as follows:

- 0% blue, 1 - 24% green, 25 - 49% yellow, 50 - 74% orange, 75 - 100% red. The default interpretation would be blue and green = ok, over = increased attention.

IOSUD-TUCN has a subscription to the specialized platform for verifying the similarity of TURNITIN ([Annex A.1.2.2. Proof payment TURNITIN 2015 2021](#), [Annex A.1.2.2. Request TURNITIN 2021](#), [Annex A.1.2.2. Payment TurnItIn 2021](#)), one of the most prestigious internationally.

All doctoral theses are verified using this platform as part of the process of preparing public defense, and

the doctoral student and the supervisor assume the results of the verification performed in accordance with internal regulations and good practices specific to the field, by signing a dedicated form. All PhD Supervisors have individual accounts within the TUCN institutional account, and doctoral students have access through supervisors. The widespread use of this mechanism for all elements of scientific production is encouraged, and in recent years there has been the development of a culture of prevention, verification and sanctioning of plagiarism within the institution, which forms the premises for quality scientific production and in accordance with academic ethics, internationally accepted.

Turnitin is used in the elaboration of *The similarity report* whereby the expert appointed from each field performs the anti-plagiarism verification of the doctoral theses to be defended within a maximum of 30 days from the submission of Application for starting the pre-examination procedure (D1 - see the *Study completion procedure* in force). *Acceptance report* of the PhD supervisor by which he expresses his agreement regarding the organization of the public defense of the doctoral thesis mentions that the content of the thesis was verified with the program of analysis of similarities Turnitin, made available to the Doctoral School of TUCN. The similarity report is uploaded on the national platform after the public defense.

As example, we present the application of TURNITIN for the evaluation of two licenses thesis from IPA domain: Food Engineering (IPA) and Food Control and Expertise (CEPA).

([Annex A.1.2.2. Report Turnitin CEPA 2021](#); [Annex A.1.2.2. Report Turnitin IPA 2021](#)).

Annexes

[Annex A.1.1.1. Regulation Doctoral School TUCN](#)

[Annex A.1.1.1. Procedure defence thesis 22.02.2022](#)

[Annex A.1.2.1. Antiplagiarism procedure](#)

[Annex A.1.1.1. Procedure checking thesis CA 19.10.2021](#)

[Annex A.1.2.1. Decision CA Turnitin](#)

[Annex A.1.2.1. Description Turnitin](#)

[Annex A.1.2.1. Guide Turnitin](#)

[Annex A.1.2.1. Order 3485 24-03-2016](#)

[Annex A.1.2.2. Proof payment TURNITIN 2015 2021](#)

[Annex A.1.2.2. Request TURNITIN 2021](#)

[Annex A.1.2.2. Payment TurnItIn 2021](#)

[Annex A.1.2.2. D3 Similarities report](#)

[Annex A.1.2.2. Report similarities 2020](#)

[Annex A.1.2.2. Acceptance 2020](#)

[Annex A.1.2.2. Report Turnitin CEPA 2021](#)

[Annex A.1.2.2. Report Turnitin IPA 2021](#)

C.2.2.3. All doctoral students have access to scientific research laboratories or other facilities depending on the specific domain/domains within the Doctoral School, according to internal order procedures.

The access of doctoral students within IOSUD-TUCN to research resources is stipulated in various regulations according to which the doctoral studies are carried out:

-In the Agreement of doctoral studies (section B – Obligations):

http://iosud.utcluj.ro/files/Files/Admitere/Contracte%202020/14_Contract_cadru_studii_doctorale_2020%20D_Arhitectura.pdf

-Regulation of the Doctoral School of the Technical University of Cluj-Napoca within IOSUD-TUCN ([Annex](#)

A.1.1.1. Regulation Doctoral School TUCN):

http://iosud.utcluj.ro/files/Legislatie/Regulamente%202019/REGULAMENT_Scoala_Doctorala_CA_CSUD_23.01.19.pdf

- in the Institutional Regulation regarding the organization and development of doctoral studies at the Technical University of Cluj-Napoca ([Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)) displayed on the web page:

http://iosud.utcluj.ro/files/Files/Legislatie%202020/REGULAMENT_Institutional_Doctorat_aprobat_Senat_24.09.2020.pdf

Each doctoral supervisor belongs to a certain research structure (research center/laboratory/group), and their affiliated doctoral students have access to the research laboratories according to internal regulations of each research structure.

https://research.utcluj.ro/tl_files/research/Research%20Domain/Chimie-Biologie/CCESMAS_Cozmuta.pdf

https://research.utcluj.ro/tl_files/research/Research%20Domain/Chimie-Biologie/Nanomedalim_ThomasDippong.pdf

https://research.utcluj.ro/tl_files/research/Research%20Domain/Chimie-Biologie/GCDIA_Giurgiulescu.pdf

The research structures within TUCN are presented both by fields and by faculties on the TUCN website:

<https://research.utcluj.ro/index.php/domenii-de-cercetare.html>

Most of them having presented the research infrastructure on the ERRIS website:

<https://eeris.eu/ERIO-2000-000T-0133>

In particular situation of Food Engineering Program, the research structures have displayed the research equipment on EERIS platform:

- ☐ Group for physico-chemical analyses—coordinator Prof. dr. eng.hab. Mihaly Cozmuta
Anca <https://eeris.eu/ERIF-2000-000W-1516>
- ☐ Group for Food Engineering – coordinator Assoc. prof. dr. eng. hab. Giurgiulescu
Livia <https://eeris.eu/ERIF-2000-000S-1656>
- ☐ Group for nanomaterials and environmental analyses– coordinator Assoc. prof. dr. Mihali
Cristina <https://eeris.eu/ERIF-2000-000W-2764>

They are also available on UTCN site at the section *Research-Structures*:

<https://research.utcluj.ro/index.php/chemistry-biology-145.html>

<https://eeris.eu/ERIF-2000-000S-1656>

<https://eeris.eu/ERIF-2000-000W-1516>

<https://eeris.eu/ERIF-2000-000W-2764>

Annexes

[Annex A.1.1.1. Arhitecture Agreement studies 2021](#)

[Annex A.1.1.1. Regulation Doctoral School TUCN](#)

[Annex A.1.1.1. Institutional Regulation HSU 123524.09.2020](#)

[Annex A.2.1.1. Research groups](#)

[Annex A.2.1.1. Laboratories didactic](#)

[Annex A.2.1.1. Laboratories research](#)

Summary of Performance Criteria, Standards and Indicators for the evaluation of new doctorate program Food Engineering

(according to Annex 4 from Guide for quality evaluation for establishment of new doctoral domains – Order 3651/12.04.2021)

DOMAINS	CRITERIA	STANDARD	INDICATORS	MEETING THE INDICATORS
A. INSTITUTIONAL CAPACITY	Criteria A.1. The administrative, managerial institutional structures and the financial resources	Standard A.1.1.The institution organizing doctoral studies (IOSUD) has implemented the effective functioning mechanisms provided for in the specific legislation on the organization of doctoral studies.	<i>Indicator A.1.1.1. The existence of specific regulations and their application at the level of the Doctoral School of the respective university doctoral study domain:</i>	<p>The activity of doctoral studies within IOSUD-UTCN complies the national legislation in force and internal regulations approved by the Senate of UTCN</p> <p>(a) The internal regulation of the Doctoral School</p> <p>Annex A.1.1.1._Institutional_Regulation_HSU_123524.09.2020</p> <p>Annex A.1.1.1._Regulation_Doctoral_School_TUCN</p> <p>Annex 1.1.6._Approved_regulations_methodologies_decisions</p> <p>(b) the Methodology for conducting elections for the position of director of the Council of doctoral school (CSD), as well as elections by the students of their representative in CSD and the evidence of their conduct</p> <p>AnnexA.1.1.1._Methodology_election_CSUD_f</p> <p>Annex A.1.1.1._H._Senate_1023_Completions_Methodology_elections_DS</p> <p>Annex A.1.1.1._Methodology_elections_doctoral_school_TUCN</p> <p>Annex A.1.1.1._Institutional_Regulation_HSU_123524.09.2020</p> <p>Annex A.1.1.1._H._Senate_1187_Update_Institutional_Regulation</p> <p>Annex A.1.1.1._Order_498_30.09.2020</p> <p>Annex A.1.1.1._Order_503_1.10.2020</p> <p>Annex A.1.1.1._List_candidates_management_IOSUD-TUCN</p> <p>Annex A.1.1.1._Data_time_election_IOSUD_TUCN_2020</p> <p>Annex A.1.1.1._Minutes_elections_IOSUD_TUCN_2020</p>

			<p>Annex A.1.1.1._Minutes_final _ results _ IOSUD-TUCN_2020</p> <p>Annex A.1.1.1._Decision_540_22.10.2020</p> <p>Annex A.1.1.1._Decision_539 _22.10.2020 _members_CSUD</p> <p>Annex A.1.1.1._Decision_538_ 22.10.2020 _ Director_DS</p> <p>Annex A.1.1.1._Decision_299_03062020_ Component_DSC</p> <p>Annex A.1.1.1._Anounce_election_DRD</p> <p>Annex A.1.1.1._Decision_922_election _ CSUD _december_2021</p> <p>Annex A.1.1.1._Decision_120_7.02.22_ appointed_coordinator</p> <p>Annex A.1.1.1._Decision_121_7.02.22 _ appointed_CSUD</p>
			<p><i>(c)the Methodologies for organizing and conducting doctoral studies (for the admission of doctoral students, for the completion of doctoral studies</i></p> <p>Annex A.1.1.1._Regulation_admission doctoral_studies_CA_2.02.21</p> <p>Annex A.1.1.1._Institutional_Regulation_ HSU_123524.09.2020</p> <p>Annex A.1.1.1._Procedure_defence-Thesis _ CA_november_2019</p> <p>Annex A.1.1.1._Procedure_defence_ Thesis _may_2020 (1)</p> <p>Annex A.1.1.1._Procedure_defence_ Thesis _Senate_24.09.2020</p> <p>Annex A.1.1.1._H._Senat_1235_ Update _ Institutional_Regulation</p> <p>Annex A.1.1.1._H._Senat_1236_ Update _ Completion_procedure</p>

				<p>Annex A.1.1.1._H._Senat_1319_Update _ Admission_Regulation</p> <p>Annex A.1.1.1._Guide_doctoral_ thesis _ UTCN_2019-2020</p> <p>Annex A.1.1.1._Template_doctoral_ thesis _ TUCN</p> <p>Annex A.1.11._Cover_doctoral_thesis</p> <p>(d)the existence of mechanisms for recognizing the status of a Doctoral advisor and the equivalence of the doctoral degree obtained abroad</p> <p>Annex A.1.1.1._Habilitation_Regulation_ Senate_24.09.2020</p> <p>Annex A.1.1.1._Procedure_habilitation_ approved_Senate_24.09.2020</p> <p>Annex A.1.1.1._H._Senate_nr._1237 _ Update_Habilitation_Rule</p> <p>Annex A.1.1.1._H._Senate_724 _Recognition _PhD_abroad</p> <p>Annex A.1.1.1._Procedure_Habilitation_ Ed _ II_Revision_1_CA_22.02.22</p> <p>Annex A.1.1.1._Bulletin_140_CA</p> <p>Annex A.1.1.1._H._Senate_724 _ Recognition_PhD_abroad</p> <p>(e) functional management structures (Council of the Doctoral School) (the regularity of meetings);</p> <p>Annex A.1.1.1._Institutional_Regulation _ HSU_123524.09.2020</p> <p>Annex A.1.1.1._Minute_CSD _ CSUD _ 28.04.21</p> <p>Annex A.1.1.1._Methodology_elections _ doctoral_school_TUCN</p> <p>Annex A.1.1.1._HCA_279_4.12.2018 _ Component_CSD</p> <p>Annex A.1.1.1._Decision_150_4.06.2019 _ Component_CSD</p> <p>Annex A.1.1.1._ Decision_ 387_5.12.19 _ Component_DSC</p>
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			<p>Annex A.1.1.1._Decision_299_03062020_ Component_DSC</p> <p>Annex A.1.1.1._Decision_502_ 01102020 _ Prolongation_mandate_DS</p> <p>(f) the contract for doctoral studies</p> <p>Annex A.1.1.1._Arhitecture_Agreement _studies_2021</p> <p>Annex A.1.1.1._Agreement_disciplines_2021</p> <p>Annex A.1.1.1._Agreement_Annex_personal_data</p> <p>(g) internal procedures for the analysis and approval of proposals about doctoral study programs</p> <p>Annex A.1.1.1._Regulation_Doctoral_ School _TUCN</p> <p>Annex A.1.1.1._Institutional_Regulation _ HSU_123524.09.2020</p> <p>Annex A.1.1.1._Rules _ admission _ doctorate_2022</p>
		<p>Indicator A.1.1.2. The doctoral school's Regulation includes mandatory criteria, procedures and standards binding on the aspects specified in Article 17, paragraph 5 of the Government Decision No. 681/2011 on the approval of the Code of Doctoral Studies and subsequent amendments and additions</p>	<p>Regulations of Doctoral School include criteria, procedures and standards mandatory for the aspects mentioned in the art.17(5) from the HG 681/2011 related to:</p> <p>(a) Conditions for habilitation, affiliation to the doctoral school and withdrawal</p> <p>(b) the decision-mechanisms regarding the opportunity, structure and content of the training program based on advanced university studies</p> <p>(c) changing the PhD supervisor and the procedures for the mediation of conflicts</p> <p>(d) changing the PhD supervisor and the procedures for the mediation of conflicts</p> <p>(e) ways to prevent and sanction fraud in scientific research, including plagiarism</p> <p>(f) The access of the PhD student to research resources</p> <p>(g) attendance obligations of doctoral students</p> <p>Annex A.1.1.1._ Regulation _ Doctoral _ School_TUCN</p>

				<p>Annex A.1.1.1._Habilitation_procedure_Senate_24.09.2020</p> <p>Annex A.1.1.1._Habilitation_Regulation_Senate_24.09.2020</p> <p>Annex A.1.1.2._Template_affiliation_Doctoral_School</p> <p>Annex A.1.1.2._Template_withdrawal_supervisor</p> <p>Annex A.1.1.2._Template_withdrawal_membership</p> <p>Annex A.1.1.1._Request_change_doctoral_supervisor</p> <p>Annex A.1.1.1._Interruption_doctoral_stage</p> <p>Annex A.1.1.1._Institutional_Regulation_HSU_123524.09.2020</p> <p>Annex A.1.1.1._Arhitecture_Agreement_studies_2021</p> <p>Annex A.1.1.2._Etic_procedure_IOSUD_CA_9.03.2021</p> <p>Annex A.1.1.1._Strategy_prevent_plagiarism_TUCN_CA</p> <p>Annex A.1.1.2._Etic_procedure_IOSUD_CA_9.03.2021</p> <p>Annex A.1.1.1._Procedure_checking_thesis_CA_19.10.2021</p> <p>Annex A.1.1.1._Strategy_TUCN_plagiarism-CA</p>
		<p>Standard A.1.2. The IOSUD has the logistical resources necessary to carry out the doctoral studies' mission.</p>	<p><i>Indicator A.1.2.1. The existence and effectiveness of an appropriate IT system to keep track of doctoral students and their academic background</i></p>	<p>Within IOSUD-TUCN the monitoring of doctoral students and theirs activity is conducted with:</p> <p>1.The platform of Doctoral School</p> <p>2. Integrate system for evaluation of didactic, research and managerial activities within TUCN (SIMAC)</p> <p>https://doctorat.utcluj.ro/</p> <p>https://research.utcluj.ro/index.php/simac.html</p> <p>Annex A.1.2.1._Informatic_System_Doctoral_students</p>

			<p><i>Indicator A.1.2.2. The existence and use of an appropriate software program and evidence of its use to verify the percentage of similarity in all doctoral theses.</i></p>	<p>Aiming to check the originality of scientific papers and PhD thesis the soft TURNITIN was implemente since 2016. All PhD supervisors have acces to TURNITIN:</p> <p>Annex A.1.1.1._Regulation_ Doctoral _ School_TUCN Annex A.1.1.1._Procedure_defense _ thesis_22.02.2022 Annex A.1.2.1._Anti plagiarism_procedure Annex A.1.2.1._Decision_CA_Turnitin Annex A.1.2.1._Description_Turnitin Annex A.1.2.1._Guide_Turnitin Annex A.1.2.1._Order_3485_24-03-2016 Annex A.1.2.2._Proof_payment_ TURNITIN_2015_2021 Annex A.1.2.2._Request_TURNITIN_2021 Annex A.1.2.2._Payment_TurnItIn_2021 Annex A.1.2.2._D3_Similarities_report Annex A.1.2.2._Report_similarities_2020 Annex A.1.2.2._Acceptance_2020 Annex A.1.2.2._Report_Turnitin _ CEPA _2021 Annex A.1.2.2._Report_Turnitin_ IPA _ 2021</p>
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	<p>Criteria A.2. Research infrastructure</p>	<p>Standard A.2.1. The IOSUD has a modern research infrastructure to support the conduct of doctoral studies' specific activities.</p>	<p>Indicator A.2.1.1. <i>The venues and the material equipment available to the doctoral school enable the research activities in the evaluated domain to be carried out, in line with the assumed mission and objectives (computers, specific software, equipment, laboratory equipment, library, access to international databases etc.). The research infrastructure and the provision of research services are presented to the public through a specific platform. The research infrastructure described above, which was purchased and developed within the past 5 years will be presented distinctly</i></p>	<p><i>The doctoral school's premises and equipment shall allow research activities in the Food Engineering doctoral study domain to be carried out following the mission and objectives assumed:</i></p> <p>Learning spaces:</p> <ul style="list-style-type: none"> - 1.73-2.33 m²/student for teaching and seminars activities (ARACIS norm is 1 m²/student for teaching activity and 1.4 m²/student for seminar activity) - 4-7.33 m²/student for the laboratory activity (ARACIS norm este de 4 m²/student) <p>Library:</p> <ul style="list-style-type: none"> - Library of UTCN-CUNBM that owns over 220,000 volumes of which over 30,000 volumes are technical books (almost 30 % are books purchased in the last 5 years (2017-2021) - specific software for on-line consultation of books: SOFTLINK LIBERTY 3, ALEPHINO - access to databases by using ANELIS Plus platform: Science direct, Springer, Web of Science, Wiley Journals, IEEE/IEL Electronic Library, de Gruyter ebooks, America Institute of Physics Journals, CAB ebooks, Institute of Physics Journals, MathSciNet, Nature Journals, Scopus <p>https://viziteaza.utcluj.ro/editura.html https://biblioteca.utcluj.ro/prezentare-editura.html https://biblioteca.utcluj.ro/materiale-editura.html https://biblioteca.utcluj.ro/carti-online-cu-coperta.html https://biblioteca.utcluj.ro/prezentare-biblioteca-CUNBM.html</p>
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				<p><i>The research infrastructure and the provision of research services are publicly disclosed through :</i></p> <p>a) EERIS platform: Physical-Chemistry Analysis Grop https://eeris.eu/ERIF-2000-000W-1516 Food Industry Group https://eeris.eu/ERIF-2000-000S-1656 Nanomaterial and Environment Analysis Group https://eeris.eu/ERIF-2000-000W-2764</p> <p>b) UTCN site: https://research.utcluj.ro/index.php/chemistry-biology-145.html.</p> <p><i>The research infrastructure acquired and developed over the last 5 years:</i> The research infrastructure acquired in the last five years (2017-2021) is made of equipments for physical-chemical analysis (142,872 euros), equipments for the Food Engineering laboratories 61351.56 RON) and logistics (14794 RON). The total value is around 143,581 euros euros.</p> <p>Annex A.2.1.1._Teaching_spaces Annex A.2.1.1._Faculties_spaces Annex A.2.1.1._Research_laboratories Annex A.2.1.1._Laboratories_didactic Annex A.2.1.1._Research_contracts Annex A.2.1.1._Research_groups Annex A.2.1.1._Agreements_mobilities Annex A.2.1.1._Equipments_5_years Annex A.2.1.1._Books_journals _databases Annex A.2.1.1._Journals_subscriptions _exchanges Annex A.2.1.1._ANELIS_PLUS Annex A.2.1.1._Computers_software Annex A.2.1.1._Spaces_PhD_students</p>
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	Criteria A.3. Quality of Human Resource	Standard A.3.1. At the level of each domain there are sufficient qualified staff to ensure the conduct of doctoral study program	Indicator A.3.1.1. Minimum three doctoral thesis advisors within that doctoral domain, and at least 50% of them (but no less than three) meet the minimum standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) in force at the time when the evaluation is carried out, which standards are required and mandatory for obtaining the enabling certification	<p>The doctoral study domain Food Engineering employs four academic teachers, of each three are habilitateea in the doctoral domain Food Engineering.</p> <p>All three Doctoral Advisors (100%) in the doctoral study domain Food Engineering meet the minimum standards of the CNATDCU – Commission 14: Engineering of vegetal and Animal Resources in force at the time of the assessment (2021), necessary and compulsory for obtaining the attestation of authorization (OM 6129/2016) both for individual and cumulate scores.</p> <p>Annex A.3.1.1._Methodology_contests_TUCN Annex A.3.1.1._Regulation_associated_staff Annex 1.2.3._Academic_staff_IPA Annex 1.2.3._CV_activity_Mihaly_Cozmuta_A Annex 1.2.3._CV_activity_Peter_A Annex 1.2.3._CV_activity_Giurgulescu_L Annex 1.2.3._CV_activity_Mihaly_Cozmuta_L Annex 1.2.3._Habilitation_certificates Annex 1.2.3._Tenured_TUCN Annex 1.2.3._Meet_minimal_standars</p>
			Indicator A.3.1.2. At least 50% of all doctoral advisors have a full-time employment contract for an indefinite period with the IOSUD.	<p>100% of Doctoral Advisors in the doctoral study domain Food Engineering are tenured teachers within the UTCN and affiliated to IOSUD-UTCN.</p> <p>Annex 1.2.3._Tenured_TUCN Annex 1.2.3._Affiliation_IOSUD_TUCN</p>

			<p>Indicator A.3.1.3. The study subjects in the education program based on advanced higher education studies pertaining to the doctoral domain are taught by teaching staff or researchers who are doctoral thesis advisors / certified doctoral thesis advisors, professors / CS I or lecturer / CS II, with proved expertise in the field of the study subjects they teach, or other specialists in the field who meet the standards established by the institution in relation with the aforementioned teaching and research functions, as provided by the law.</p>	<p>The disciplines in the training program based on advanced university studies corresponding to the Food Engineering domain are taught by teachers or researchers having the status of Doctoral Advisor and Associate professor, with expertise in the disciplines taught.</p> <p>Of four academic teachers that coordinate the disciplines in the doctoral study domain Food Engineering one teacher (25%) have the status of Professor and three teachers (75%) have the status of Associate professor.</p> <p>Of four academic teachers that coordinate the disciplines in the doctoral study domain Food Engineering three teachers (75%) are Doctorate Advisors in the doctoral study domain Food Engineering, and one teacher (25%) is not Doctoral Advisor. All teachers have proven expertise in the discipline taught.</p> <p>Annex 1.2.3._Academic_staff_IPA Annex 1.2.3._Habilitation_certificates Annex 1.2.3._Affiliation_IOSUD_TUCN Annex 1.2.3._Tenured_TUCN Annex 1.2.3._CV_activity_Mihaly_Cozmuta_A Annex 1.2.3._CV_activity_Mihaly_Cozmuta_L Annex 1.2.3._CV_activity_Peter_A Annex 1.2.3._CV_activity_Giurgiuлесcu_L Annex A.3.1.3._Expertise_ coordinator _ doctorate</p>
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		<p>Standard A.3.2. The Doctoral advisors within the domain are carrying out a scientific activity visible at international level</p>	<p>Indicator A.3.2.1. At least 50% of the doctoral thesis advisors in the evaluated domain have at least 5 Web of Science - or ERIH-indexed publications in magazines of impact, or other achievements of relevant significance for that domain, including international-level contributions that indicate progress in scientific research - development - innovation for the evaluated domain. The aforementioned doctoral thesis advisors enjoy international awareness within the past five years, consisting of: membership on scientific boards of international publications and conferences; membership on boards of international professional associations; guests in conferences or expert groups working abroad, or membership on doctoral defense commissions at universities abroad or co-leading with universities abroad</p>	<p>The three Doctoral Advisors in the doctoral study domain Food Engineering published at least 5 papers indexed Web of Science in impact journals with relevant significance to the domain showing a progress in the research of the Food Engineering domain. There are mentioned 2 international (EPO) patent proposals and 2 national patent proposal (OSIM)</p> <p>All Doctoral Advisors (100%) have international visibility over last five years consisting at least two of: membership in the scientific committees of international publications and conferences; membership in the boards of international professional associations; membership of committees supporting doctoral thesis at universities abroad; reviewers for ISI and BDI ranked journals, high values of Hirsch index</p> <p>Annex A.3.2.1._Papers_WEB_of_Science Annex A.3.2.1._Proposed_Patents Annex A.3.2.1._International_visibility</p>
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			Indicator A.3.2.2. At least 50% of the doctoral thesis advisors in a specific doctoral study domain continue to be active in their scientific field, and acquire at least 25% of the score requested by the minimal CNATDCU standards in force at the time of the evaluation, which are required and mandatory for acquiring their enabling certificate, based on their scientific results within the past five years	All Doctoral Advisors (100%) in the doctoral study domain of Food Engineering are still carrying scientific activity after their habilitation. The assessment of their activity indicates that each one (100%) accumulate more than 105 points that represents 25% of the score required by the minimum standards of the CNATDCU- Commission 14. Engineering of Vegetal and Animal Resources (OM 6129/2016) in force at the time of the assessment (2021), which are necessary and compulsory for the endorsement, based on the scientific results of the last 5 years. Annex A.3.2.1. Fulfillment A.3.2.2
B. EDUCATIONAL EFFECTIVENESS	Criteria B.1. The number, quality and diversity of candidates enrolled for the admission contest	Standard B.1.2. Candidates admitted to doctoral studies demonstrate academic, research and professional performance	Indicator B.1.2.1. Admission to doctoral study programs is based on selection criteria including: previous academic, research and professional performance, their interest for scientific or arts/sports research, publications in the domain and a proposal for a research subject. Interviewing the candidate is compulsory, as part of the admission procedure.	According to Art. 27, 18 from Institutional Regulation for admission to doctoral studies in TUCN the admission involves some selection criteria that include: academic and professional performance of candidates, their interest in scientific research or art/sport, publication in the field and the proposal of research theme. Art. 27 of the same regulation mentions "(1) regardless the field, the admission contest involves at least two stages: - an interview during of the competences and scientific interest of the candidate are investigated, their research skills and the research theme for PhD thesis is proposed; - an exam for the linguistic competence for a foreign language wide utilized". Annex A.1.1.1. Rules_admission_doctorate_2022 Annex B.1.2.1. H. Senate_1319_Updating_Admission_Regulation

	Criteria B.2. The content of doctoral programs	Standard B.2.1. The training program based on advanced university studies is appropriate to improve doctoral students' research skills and to strengthen ethical behavior in science.	Indicator B.2.1.1. The training program based on advanced academic studies includes at least 3 disciplines relevant to the scientific research training of doctoral students; at least one of these disciplines is intended to study in-depth the research methodology and/or the statistical data processing	The training program based on advanced academic studies of the doctoral study domain of Food Engineering includes five disciplines relevant to the scientific research training of doctoral students. Three disciplines are complementary mandatory disciplines and two are optional domain disciplines for in-deep knowledge. The mandatory disciplines are <i>Methodology for scientific research</i> , <i>Academic ethic and integrity</i> and <i>Statistically processing of experimental data</i> . The optional domain disciplines for deep knowledge will be agreed upon and proposed by the PhD supervisor together with the PhD student, and they are approved by the Doctoral School Council and by the Coordination Council of the Food Engineering doctoral program. Annex A.1.1.1._Institutional_Regulation_H SU _ 123524.09.2020 Annex B.2.1.1._Curriculum_doctorate_IPA Annex B.2.1.1._Courses_outlines
			Indicator B.2.1.2. At least one discipline is dedicated to Ethics and Intellectual Property in scientific research or there are well-defined topics on these subjects within a discipline taught in the doctoral program	In the 1st year (1st semester) of the Education Plan of the doctoral study program of Food Engineering is provided a mandatory discipline dedicated to <i>Ethics and Intellectual Property in scientific research</i> (2C + 2S/week) where topics on these subjects are well-defined. Annex B.2.1.1._Courses_outlines Annex B.2.1.1._Curriculum_doctorate_IPA

			<p>Indicator B.2.1.3. The IOSUD has mechanisms to ensure that the academic training program based on advanced university studies addresses „the learning outcomes”, specifying the knowledge, skills, responsibility and autonomy that doctoral students should acquire after completing each discipline or through the research activities.</p>	<p>During their doctoral studies, the PhD student is guided/supported by a guidance commission made up of 3 other teaching or research staff members from the UTCN (who hold a PhD title and are at least university lecturers or 3rd-degree scientific researchers) with scientific competencies in PhD thesis topic. The guidance commission meets at least once every 6 months upon the PhD student's or the PhD supervisor's request. After each meeting, the guidance commission shall draft a report which shall include the progress made by the PhD student, as well as the recommendations of the commission.</p> <p>In addition to guidance throughout the doctoral programme, the Doctoral Advisors and members of guidance commissions will help PhD student to integrate in the scientific community by providing help for writing the papers for publishing in journals or attendance scientific events (scientific seminars, symposiums, conferences). When scientific topics relevant for their research will be discussed, the Ph D students will attend to scientific seminars organized by the Chemistry-Biology Department. The meetings between Doctoral Supervisor and PhD student will take place on weekly basis. Within IOSUD-UTCN the doctoral study programs are analyzed in order to correspond to the qualification level 8 according to the National Qualifications Framework.</p> <p>Annex A.1.1.1._Institutional_Regulation _HSU _123524.09.2020 Annex B.2.1.1._Curriculum_doctorate_IPA Annex B.2.1.1._Courses_outlines Annex 1.2.3._CV_activity_Mihaly_Cozmuta_A Annex 1.2.3._CV_activity_Peter_A Annex 1.2.3._CV_activity_Giurgiulescu_L Annex 1.2.3._CV_activity_Mihaly_Cozmuta_L Annex A.3.1.3._Expertise_coordinator _doctorate</p>
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<p>C. QUALITY MANAGEMENT</p>	<p>Criteria C.1. Existence and periodic implementation of the internal quality assurance system</p>	<p>Standard C.1.1 There are an institutional framework and procedures in place and relevant internal quality assurance policies, applied for monitoring the internal quality assurance.</p>	<p>Indicator C.1.1.1. The Doctoral school in the respective university study domain shall demonstrate the continuous development of the evaluation process and its internal quality assurance following a procedure developed and applied at the level of the IOSUD, the following assessed criteria being mandatory: a) the scientific work of Doctoral advisors; (b) the infrastructure and logistics necessary to carry out the research activity; (c) the procedures and subsequent rules based on which doctoral studies are organized; d) the scientific activity of doctoral students; e) the training program based on advanced academic studies of doctoral students; f) social and academic services (including for participation at different events, publishing papers etc.) and counselling made available to doctoral students.</p>	<p>At the level of the TUCN Doctoral School, the IOSUD-TUCN activity self-evaluation METHODOLOGY has been implemented, which is the current general framework that establishes the criteria and indicators for the IOSUD-TUCN activity self-evaluation and the assignment of responsibilities regarding the self-evaluation process and report: a) scientific activity of doctoral supervisors; b) infrastructure and logistics necessary to carry out the research activity; c) subsequent procedures and norms on the basis of which doctoral studies are organized; d) scientific activity of doctoral students; e) training program based on advanced university studies of doctoral students; f) social support, academy and counseling services provided to doctoral students.</p> <p>Structures with attributions in the field of quality operate for evaluation.</p> <p>Annex C.1.1.1._Strategic_Plan_ TUCN _ 2020_2024</p> <p>Annex C.1.1.1._Metodologie autoevaluare IOSUD-UTCN_28.01.2021</p> <p>Annex C.1.1.1._H._Senate_nr._ 1301 _Updating_Selfautoevaluation</p> <p>Annex C.1.1.1._MetodologY_selfevaluation _ IOSUD-TUCN_11.05.2021</p> <p>Annex C.1.1.1._H._Senate_1354 _ Methodology_selfevaluation</p> <p>Annex C.1.1.1._Methodology_ selfevaluation _ doctoral_domains</p> <p>Annex C.1.1.1._H._Senate_1355 _ Methodology_selfevaluation Updating</p> <p>Annex C.1.1.1._H._Senate_1021_ Metodology_ selfevaluation_Doctoral_School</p> <p>Annex C.1.1.1._HCA_97_20_november2018</p> <p>Annex C.1.1.1._HCA_98_20_november2018</p> <p>Annex C.1.1.1._Report_selfevaluation_2018</p> <p>Annex C.1.1.1._Report_self_evaluation_2021</p>
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			<p>Indicator C.1.1.2. Mechanisms are implemented during the stage of the doctoral study program to enable feedback from doctoral students allowing to identify their needs, as well as their overall level of satisfaction with the doctoral study program in order to ensure continuous improvement of the academic and administrative processes. Following the analysis of the results, there is evidence that an action plan was drafted and implemented.</p>	<p>Regulations for TUCN doctoral studies in Section 7.1. Planning, keeping under control and continuous improvement of doctoral training in UTCN - Art. 73 (1) mentions that CSUD identifies critical processes for quality assurance in doctoral activity in UTCN and collaborates with TUCN quality assurance department in drawing up and implementing procedures necessary for maintaining under control, as well as the continuous improvement of these processes.</p> <p>Annex A.1.1.1._Institutional_Regulation _HSU _ 123524.09.2020 Annex C.1.1.1._Sheet_selfevaluation _ DRD _2018; Annex C.1.1.1._Sheet_selfevaluation_ DRD _ 21 Annex C.1.1.1_Report f. drd. 2019 Annex C.1.1.1_Report f. drd. 2021 Annex C.1.1.1._ Strategic _Plan_ TUCN _ 2016_2020 Annex C.1.1.1._Strategic_PLan_ TUCN _ 2020 _2024 Annex C.1.1.1._ Plan _Operational _ 2020 _ 2021</p>
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	<p>Criteria C.2. Transparency of information and accessibility of learning resources</p>	<p>Standard C.2.1. Information of interest to doctoral students, future candidates and public interest information is available for electronic format consultation</p>	<p>Indicator C.2.1.1. The IOSUD publishes on the website of the organizing institution, in compliance with the general regulations on data protection, information such as: (a) the Doctoral School regulation; (b) the admission regulation; (c) the doctoral studies contract; (d) the study completion regulation including the procedure for the public presentation of the thesis; (e) the content of training program based on advanced academic studies; (f) the academic and scientific profile, thematic areas/ research themes of the Doctoral advisors within the domain, as well as their institutional contact data; (g) the list of doctoral students within the domain with necessary information (year of registration; advisor); (h) information on the standards for developing the doctoral thesis; (i) links to the doctoral theses' summaries to be publicly presented and the date, time, place where they will be presented; this information will be communicated at least twenty days before the presentation.</p>	<p>The web platform http://iosud.utcluj.ro/ is addressed to doctoral students of the Technical University of Cluj Napoca and through it are made available, in compliance with the regulations in force on data protection, information such as: a) the regulations of the doctoral school ; b) the admission regulation; c) the doctoral studies contract; d) the regulation for completing the studies, including the procedure for public defense of the thesis; e) the content of training programs based on advanced university studies; f) the academic and scientific profile, the thematic areas / research topics of the doctoral supervisors in the field, as well as their institutional contact data; g) the list of doctoral students in the field with the basic information (year of registration, leader); h) information about the standards for the elaboration of the doctoral thesis; i) links to the abstracts of the doctoral theses to be defended publicly, as well as the date, time, place where they will be defended, at least 20 days before the defense.</p> <p>Annex A.1.1.1._Institutional_Regulation_HSU _ 123524.09.2020 Annex A.1.1.1._H._Senate_1236 _ Defence _ studies_Updated Annex A.1.1.1._Procedure_defense _ thesis_22.02.2022 Annex A.1.1.1._Bulletin_140_CA</p>
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		<p>Standard C.2.2. The IOSUD/The Doctoral School provides doctoral students with access to the resources needed for conducting doctoral studies</p>	<p><i>Indicator C.2.2.1. All doctoral students have free access to one platform providing academic databases relevant to the doctoral studies domain of their thesis.</i></p>	<p>At UTCN, the academic staff and students have free access to academic databases for relevant for their PhD thesis topic by ANELIS-Plus programm: Science direct, Springer, Web of Science, Wiley Journals, IEEE/IEL Electronic Library, de Gruyter ebooks, America Institute of Physics Journals, CAB ebooks, Institute of Physics Journals, MathSciNet, Nature Journals, Scopus. Annex A.2.1.1._ANELIS_PLUS</p>
			<p><i>Indicator C.2.2.2. Each doctoral student shall have access, upon request, to an electronic system for verifying the degree of similarity with other existing scientific or artistic works.</i></p>	<p>IOSUD-UTCN ensures, upon request, the access to Turnitin programm, to an electronic system for verifying the degree of similarity with other existing scientific or artistic works. Annex A.1.1.1._Regulation_Doctoral_School_TUCN Annex A.1.1.1._Procedure_defence _thesis _22.02.2022 Annex A.1.2.1._Antiplagiarism_procedure Annex A.1.1.1._Procedure_defence _thesis _22.02.2022 Annex A.1.1.1._Procedure_checking _thesis _CA_19.10.2021 Annex A.1.2.1._Decision_CA_Turnitin Annex A.1.2.1._Description_Turnitin Annex A.1.2.1._Guide_Turnitin Annex A.1.2.1._Order_3485_24-03-2016 Annex A.1.2.2._Proof_payment _TURNITIN_2015_2021 Annex A.1.2.2._Request_TURNITIN _2021 Annex A.1.2.2._Payment_TurnItIn_2021 Annex A.1.2.2._D3_Similarities_report Annex A.1.2.2._Report_similarities_2020 Annex A.1.2.2._Acceptance_2020 Annex A.1.2.2._Report_Turnitin _CEPA _2021 Annex A.1.2.2._Report_Turnitin_IPA_2021</p>

			<p>Indicator C.2.2.3. All doctoral students have access to scientific research laboratories or other facilities depending on the specific domain/domains within the Doctoral School, according to internal order procedures.</p>	<p>The access of doctoral students within IOSUD-TUCN to research resources is stipulated in various regulations according to which doctoral studies are carried out: Doctoral studies contract (section B - Obligations), Regulations of the Doctoral School of the Technical University of Cluj - Napoca within IOSUD-UTCN, the Institutional Regulation regarding the organization and development of doctoral studies at the Technical University of Cluj-Napoca.</p> <p>The research structures within IOSUD-UTCN presented the material basis on the ERRIS platform and on the TUCN website.</p> <p>Annex A.1.1.1._Arhitecture_Agreement _ studies _2021 Annex A.1.1.1._Regulation_Doctoral _ School _TUCN Annex A.1.1.1._Institutional_Regulation_HSU_12352 4.09.2020 Annex A.2.1.1._Research_groups Annex A.2.1.1._Laboratories_didactic Annex A.2.1.1._Laboratories_research https://research.utcluj.ro/index.php/chemistry-biology-145.html https://eeris.eu/ERIF-2000-000S-1656 https://eeris.eu/ERIF-2000-000W-1516 https://eeris.eu/ERIF-2000-000W-2764 https://research.utcluj.ro/index.php/chemistry-biology-145.html</p>
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3. STRATEGIES AND PROCEDURES IMPLEMENTED AT THE LEVEL OF THE DOCTORAL SCHOOL WITHIN IOSUD-TUCN, WHICH INCLUDES THE NEW FIELD OF FOOD ENGINEERING DOCTORAL STUDIES AS MEASURES FOR CONTINUOUS IMPROVEMENT OF THE QUALITY OF DOCTORAL PROGRAMS, BEYOND THE EXISTING MINIMUM STANDARDS

IOSUD-UTCN is one of the important university centers in Romania where the habilitation process in engineering sciences takes place (49 defenses in the last 5 years (2016-2020)), which we consider to be an argument regarding the quality of doctoral education and research. within the institution and the institutional performance of IOSUD

The regulations can be found on:

<http://iosud.utcluj.ro/legislatie-si-formulare-abilitare.html>

The stages of the process itself and the related documents, including the summaries of the habilitation theses are accessible on the website:

<http://iosud.utcluj.ro/teze-de-abilitare.html>

The Technical University of Cluj-Napoca is continuously concerned with the process of improving doctoral studies conducted through IOSUD-TUCN. In order to achieve this goal, two main directions of action are currently being pursued, in correlation between IOSUD and the dedicated structures within the university:

- improving the quality of the educational act through internationalization and connection to international trends in the field, collaboration IOSUD - International Relations Office
- improving the quality of research results and the visibility and international impact of research conducted by doctoral students by supporting their publications, collaboration IOSUD - Department for Research, Development and Innovation Management

These desideratums are put into practice through a combination of internal measures/procedures/strategies and collaborations with third parties whose mission is dedicated to supporting the research-development-innovation sector at international level. On the dimension of the internationalization of doctoral education, we mention:

- **Procedure for receiving studies and schooling of non-EU citizens**, which complements the regulations on EU-EEA citizens in the legislation and is also addressed to doctoral students ([Annex 3.1.Scholarship citizen non EU](#));

http://bri.utcluj.ro/docbri_cj/docbricj38.pdf

<https://iosud.utcluj.ro/admitere.html>

- **The methodology regarding the automatic recognition by the Technical University of Cluj-Napoca of the quality of PhD Supervisor obtained in university institutions accredited from abroad** successfully applied within the TUCN Doctoral School; https://www.utcluj.ro/media/decisions/2017/12/11/Metodologie_recunoastere_calitate_conducator_doctorat.pdf

- **The methodology of educating Romanians everywhere in the state higher education in Romania**, which is an annex to OMEN 3900/16.05.2017 and which the candidates may benefit from for

admission to doctoral studies;

<https://admitereonline.utcluj.ro/documente/>

Aiming to increase the number of doctoral students attending to research stages abroad at least with 20%, the target at the level of European Academic Education, IOSUD-TUCN implements various measures explained in documents such as:

- Strategie d'internationalisation, which target 2016-2020 ([Annex C.1.1.1. Strategic Plan TUCN 2016 2020](#)) in the frame of the Gouvernance Project AUF – Renforcement de l'expérience internationale individuelle comme levier de la politique globale de l'universite;

- Managerial Plan of TUCN Rector ([Annex C.1.1.1. Plan Managerial VT 2020](#))

- TUCN Strategy 2024 ([Annex C.1.1.1. Strategic Plan TUCN 2020 2024](#));

- Annual Operational Plans ([Annex C.1.1.1. Plan Operational 2020 2021](#)).

https://www.utcluj.ro/media/decisions/2020/10/26/Plan_Strategic_TUCN.pdf

https://www.utcluj.ro/media/page_document/383/Plan_Managerial_VT_2020.pdf

https://www.utcluj.ro/media/decisions/2016/07/27/Plan_strategic.pdf

https://www.utcluj.ro/media/decisions/2020/12/14/Planul_Operational.pdf

On of the strategy implemented to increase de number of the doctoral students attending to abroad research stages target the utilisation of resources attracted by projects FDI, where specific activities are provided:

- Linguistic support in the form of tutoring and through the organization of workshops/English language courses. The tutorial consists of linguistic revision, preparation for publication of works/posters/speeches/presentations written by authors. The following courses were organized:

- Oral skills for teaching in English - English language course for the development of oral communication skills

- Advanced grammar and structures for teaching in English - English language course for improving the fluency and grammatical accuracy of communication in English at an advanced level, oriented towards academic discourse specific to the research activities, to which the doctoral students could enroll.

- The dynamization of publishing in prestigious journals and the participation of TUCN doctoral students in international (onsite/virtual) conferences was ensured by financial support granted to the selected doctoral students based on objective criteria. Funds were provided to cover the costs related to participation taxes, population taxes, transport and accommodation

Starting with 2019, TUCN is member of the universities consortium that founded European University of Technology – Eut+. One of the workpackage of Eut+ projects aims significant increase of students mobilities to the 7 universities members in the consortium. Thus, the projects proposes for in 2021 that 30% of doctorand students to attend to mobilities, 35% in 2022, 40% in 2023, 50% in 2025 and up to 75 in 2030.

<https://www.univ-tech.eu/presentation-2>.

It can be mentioned the next mobilities and study programs:

- **Centre de Reussite Universitaire**, an initiative on the francophone dimension (TUCN being a member of Agence universitaire de la Francophonie), which supports the educational activity at all levels of studies, including doctorate;

https://www.auf.org/les_membres/nos-membres/nos-membres/universite-technique-de-cluj-napoca/

-**Scholarships offered by the Government of France**, for master's and doctoral studies through the French Institute of Romania;

<https://institutfrancais.ro/universitara-si-stiintifica/>

-**Japan Vulcanus Scholarship Program** supported by EU-Japan Center for Industrial Cooperation and which addresses all three levels of Bologna studies;

<https://www.eu-japan.eu/events/vulcanus-japan>

-**Scholarship and research internship program in Germany** offered by DAAD (with which TUCN has been collaborating for over 25 years and which offers a wide range of opportunities to complete and expand doctoral research with an internship in Germany.

<https://www.daad.ro/ro/>

-**Fulbright program**, which offers scholarships in the USA and includes options for doctoral and post-doctoral students.

<https://fulbright.ro/>

- **ERASMUS** mobilities for doctoral student: doctoral supervisors for Food Engineering Program have signed mobilities agreements ERASMUS+ with abroad universities (Italy, France, Norway, Holand, Portugal, Brasil, Poland) with programs in the field of food industry, that will allow the access to the research equipment that is not available in TUCN. Moreover, there is an research agreement with Warsaw University of Poland ([Annex A.2.1.1. Agreements mobilities](#)) regarding the organization of co-tutoring doctorates.

- **CEEPUS mobilities**: within the frame –f CEEPUS network CEEPUS CIII-HR-0306-09-2021-*For Safe and Healthy Food in Middle-Europe* (<https://www.ceepus.info/public/network/network.aspx#nbb>, TUCN partner being coordinated by Prof.dr.eng.hab. Mihaly Cozmuța Anca.

On the dimension of publication and international visibility, we mention:

-Awarding of scientific research scholarships for all levels of studies (including doctoral and post-doctoral) starting with 2015 according to a specific methodology;

-Awarding some support grants for papers published in prestigious journals and patents obtained, which has an important impact on doctoral studies;

-Carrying out since 2013 an internal research grant competitions for young researchers, doctoral students having the opportunity to be members of the research team;

-Participation in the consortium ArUT, which took place in the period 2018-2020 competition National Research Grants - ARUT, where the presence of a doctoral student in the research team is a condition of eligibility;

TUCN doctoral school has previously been involved in **POSDRU-type projects** dedicated to support doctoral students and postdoctoral researchers, another element that confirms the value and impact of scientific results obtained by TUCN affiliated researchers. Among the most important projects the following can be mentioned:

- 4D-POSTDOC - Development and support of multidisciplinary postdoctoral programs in priority technical areas of the national strategy for research - development - innovation, POSDRU/89/1.5/S/52603 (Beneficiary)
- Inter-university Partnership for Engineering Excellence - PARTING, POSDRU/159/1.5/S/137516 (Beneficiary)
- Progress and development through post-doctoral research and innovation in engineering and applied

sciences (POST DOC - PRiDE) ", POSDRU/89/1.5/S/57083 (Partner)

A great achievement of TUCN is the project "**Entrepreneurial skills and research excellence in doctoral and postdoctoral study programs - ANTREDOC**", within the Call for projects POCU/380/6/13/ "Support for doctoral students and postdoctoral researchers" (implementation period: July 2019 - December 2022). <https://antredoc.utcluj.ro/>

The project has a budget of 6978,750 lei which offers a number of 99 additional scholarships of 12 months each for doctoral students and postdoctoral researchers; each of them receives, in addition to the scholarship, funding for the publication of articles at prestigious international conferences and in journals, access to literature in order to increase the quality of scientific results of young researchers and efficient use of their research results. The target group is organized in three series. The first series consists of 21 doctoral students and 10 postdoctoral researchers. The second series consists of 23 doctoral students and 11 postdoctoral researchers. The third series consists of 23 doctoral students and 11 postdoctoral researchers. The aim of the project is to improve the quality and efficiency of tertiary education by increasing the level of education, especially for groups in less developed regions. The project aims to increase skills in the labor market, develop entrepreneurial skills in order to validate acquired skills and career guidance.

As regard the Food Engineering doctorate program, there are signed agreements with abroad universities considering the organization of co-tutoring doctorates and participation of foreign experts in the teaching activities. These activities are specific mentioned in the agreements signed with Warsaw University of Poland and ANDALTECH Technological Center (Spain) ([Annex A.2.1.1. Agreements mobilities- Cooperation agreement UTCN-WUT, Collaboration Agreement UTCN-ANDA](#)).

IOSUD-TUCN actively involves in the **internalization of the activities** within doctoral studies:

The promotion of the educational offer at the level of doctoral studies by increasing the visibility of the fields offered by UTCN, as a result of the participation in educational fairs and by campaigns to promote these programs was done by translating the UTCN website into English, French and German.

<https://www.utcluj.ro/fr/>

<https://www.utcluj.ro/de/>

<https://www.utcluj.ro/en/>

Thus, in the period 2017-2020, UTCN was present at the following major international fairs, where doctoral studies were promoted:

- Journée Portes Ouvertes pour la Roumanie au Maroc, Marrakech, March
- 2017 Studyworld Berlin, May, 2017
- Azerbaijan-Romania I Interuniversity Forum May, 2017, Baku,
- Azerbaijan EAIE Seville, September 2017
- Education and Career -2018 și la Education Abroad, in Kiev, Ukraine
- Study in Romania, Dubai, Emiratele Arabe Unite, february-march
- 2018 Study in Romania, Rabat și Casablanca, Maroc- march 2018
- Targul Universitatilor din Romania, Chisinau, 2018
- Study in Romania- Ashgabat. Turkmenistan-july 2018
- EAIE Geneva, Septembrie 2018
- Campus Romania- Tunis, Tunisia- octomber 2018
- Conference and annual exhibition NAFSA 2019, Washington (may 2019)
- Conference and annual exhibition EAIE 2019, Helsinki (september 2019)
- International fair Fair Kazakhstan - Nur Sultan, Shymkent, Almaty (october 2019)
- International fair Global Education Fair, Vietnam, october 2019
- Romanian Universities Fair , Chișinău (july 2019)
- International Education Exhibition Ashgabat (november 2019)

Fair International Education Fair Kazakhstan – octomber 2019 - Astana
 Fair International Education Fair Kazakhstan – octomber 2019 -
 Shymkent Fair International al Education Fair Kazakhstan – octombrie
 2019 - Almaty Study in Europe –virtual fair Singapore, september 2020
 Virtual Fair RIUF (October 2020)
 Educational Fair in Vietnam (december 2020), by representative of Romanian Embassy to Hanoi
 ABC Fairs – online fair for the region Central Asia (Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan,
 Turkmenistan, Azerbaijan), (june 2020)
 BeginGroup regon Eurasia (Azerbaijan, Georgia, Ucraina, Belarus) (October 2020)
 Fair International BeginGroup Central Asia (Kazakhstan, Kyrgyzstan, Uzbekistan) (November
 2020).

These and many more are displayed in the [Annex C.3.1.3. Internalization documents.](#)

Also for the increase of extternationalization, the translation of the website dedicated to doctoral studies in English was made and the development of the platform dedicated to doctoral studies in both Romanian and English was developed.

<http://iosud.utcluj.ro/index.en.html>

<https://doctorat.utcluj.ro/>

An analysis of the studyinromania platform was permanently performed from the point of view of doctoral studies, the information being updated or completed was identified, the necessary information was collected, they were correlated in a unitary form and then they were uploaded. in the platform.

<https://www.studyinromania.gov.ro/fp/index.php>

Aiming to promote doctoral studies, references and doctoral studies are made in the brochures and flyers of the Technical University of Cluj-Napoca. Resources presented are available and downloadable online from the following addresses:

<http://bri.utcluj.ro/en/resources.php>

http://bri.utcluj.ro/documente/pliant_doctorat_ro.pdf

http://bri.utcluj.ro/documente/pliant_doctorat_en.pdf

http://bri.utcluj.ro/documente/pliant_doctorat_fr.pdf

Flyers presenting doctoral studies in Romanian, English and French are presented to [Annex C.3.1.3. Internalization documents.](#)

Online platforms(the International Relations Office's own page available in Romanian, English, French and German, which includes, in addition to the activities of the International Relations Office and those of the Erasmus + Office);

<http://bri.utcluj.ro/>

Periodic meetings with representatives of partner universities and institutions abroad: promotion in the activities that have taken place since the organization of the International Week at UTCN, 2015, 2017, 2020 editions (online).

https://www.utcluj.ro/media/notices/2017/saptamana_internationala_after.pdf

https://www.utcluj.ro/media/page_document/78/saptamana%20internationala.pdf

<https://crmse.utcluj.ro/index.php/anunturi/saptamana-internationala-be-international-at-home-editia-a-3-a-9-12-noiembrie.html>

In the period 2016-2012, FDI (Institutional Development Funds) type projects were proposed and accepted annually for funding, in the field of 2: Internationalization, which provided, planned and carried out specific activities to support the internationalization of doctoral studies, such as :

- Stimulating the international mobility of doctoral students, in order to increase the research capacity and the international visibility, was ensured by: linguistic support in the form of tutoring and by organizing workshops / English language courses.

The tutorial consists of linguistic revision, preparation for publication of works / posters / speeches / presentations written by the authors, in the presence of the authors. An online application for scheduling tutoring sessions has been developed. Language support activities were carried out.

The following courses were organized: Oral skills for teaching in English - English course for the development of oral communication skills and Advanced grammar and structures for teaching in English

- English course for improving the fluency and grammatical accuracy of communication in English at advanced level, oriented towards the academic discourse specific to the research activities, to which the doctoral students could enroll.

- Improving the services for international students was ensured by: English language courses for administrative / non-teaching staff, organizing Welcome Day events for international students, developing online applications on the website of the International Relations Office and by developing an application mobile, with relevant information about UTCN;

- Acquisition of books, monographs, manuals and subscriptions to specialized magazines published in languages of international circulation;

- The dynamization of the publication in prestigious journals and the participation of UTCN doctoral students in international (onsite / virtual) conferences was ensured by financial support granted to the selected doctoral students based on objective criteria. Funds were provided to cover the costs related to participation taxes, population taxes, transport, accommodation.

The **TUCN 2020-2024 Strategy** provides for the following measures to stimulate Doctoral and postdoctoral education ([Annex C.1.1.1. Strategic Plan TUCN 2020 2024](#)):

- promoting, in collaboration with economic agents, research topics of excellence in doctoral and postdoctoral studies, with financial support from them;

- increasing the financial support provided to doctoral / postdoctoral students by accessing new projects within the Human Capital Operational Program 2021–2027, and / or through scholarships of excellence granted from own revenues or private scholarships;

- granting support grants in the first three years after the employment of young people who complete their doctoral / postdoctoral studies;

- encouraging doctoral students to participate in prestigious scientific events, to publish in BDI indexed journals, by awarding support grants, in order to meet the criteria for the defense of theses and to increase the completion rate;

- supporting doctoral / post-doctoral students in the realization of patents and technological transfer to economic agents, through support grants;

- providing financial support and technical assistance to valuable research, the result of doctoral programs, in order to set up start-ups;

- encouraging doctoral and post-doctoral programs developed under international co-supervision, especially with partners from the European University of Technology - EUt + network;

- organizing an annual, international conference of the Doctoral School, built around the partner universities from the EUt + network;

The next results indicators are targeted:

- ✓ 5% international doctoral students;
- ✓ increasing with 20% of international co-tutoring agreements;

- ✓ increasing with 40% of finalized doctoral thesis;
- ✓ increasing with 10% of foreign experts participation in public defense commissions;
- ✓ increase with 10% of classes offered by foreign experts to the doctoral students or post-doc students;
- ✓ increasing with 25 of scientific papers developed ranked BDI.

Annexes:

[Annex 3.1.Scholarship citizen non EU](#)

[Annex A.1.1.1. Metodology recognision doctoral coordinator](#)

[Annex A.2.1.1. Agreements mobilities](#)

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[Annex C.1.1.1. Strategic Plan TUCN 2020 2024](#)

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[Annex C.1.1.1. Plan Operational 2020 2021](#)

[Annex A.1.1.1. Regulation Doctoral School TUCN](#)

[Annex C.3.1.3. Internalization documents](#)

4. OTHER SUPPLEMENTARY INFORMATION RELEVANT TO THE ESTABLISHMENT OF THE NEW FOOD ENGINEERING DOCTORAL FIELD

SWOT Analysis

Strengths

- Supporting the establishment of the doctoral school in the field of Food Engineering by the TUCN-CUNBM management
- The teaching staff involved in the Food Engineering doctoral program is tenured in TUCN-CUNB and proven expertise in the field of coordinated disciplines
- The experience in the scientific research activity, of the participation in research contracts and the elaboration of the scientific works of the teachers involved in the Food Engineering doctoral field will allow a good guidance and stimulation of the doctoral students
- Cooperation relations with universities in the country and prestigious universities abroad, CEEPUS and ERASMUS Plus mobility programs will allow the collaboration of teachers and PhD students with colleagues in the country and abroad, establishing research relations and access to analysis equipment physico-chemical that does not exist in its own endowment
- Access to current scientific literature
- The existence of TUCN's Moodle KnowledgeBase platform allows fast audio-video communication with students
- The existence within the TUCN of the Scientific Research Support Grants program allows the purchase of small analysis equipment and reagents
- The presence on the IOSUD-UTCN website of the regulations and procedures underlying the functioning of the doctoral school's activity and its permanent updating
- The interest of Food Engineering graduates to participate in the doctoral training program

Weaknesses

- There are only three PhD supervisors in the Food Engineering doctoral program
- Reduced visibility and promotion in the media of scientific and didactic achievements

Opportunities

- Good reserve of teachers whose didactic, scientific activity and international visibility allow them the habilitation in the field of Food Engineering, affiliation to IOSUD-UTCN and strengthening the doctoral school
- Possibility of doctoral coordination in co-tutoring with universities in the country and abroad based on existing collaboration relations / protocols
- The existence of a large number of potential Food Engineering candidates for doctoral studies
- Existence of internal and external funding competitions to attract the funds needed to carry out research activities

Threats

- Competition with doctoral schools in the field of Food Engineering in national universities
- The declining number of students in the field of Food Engineering decreases every year as a result of the decrease in the birth rate reduces the selection base of future doctoral students
- Increasing availability of students, master students to devote a long time to study
- The disinterest of the economic environment towards research.

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**Statement on ensuring the accuracy, comprehensiveness and reliability
of the disseminated data**

The Internal Evaluation Report of the FOOD ENGINEERING field of doctoral studies in the TUCN Doctoral School, IOSUD-TUCN was developed in accordance with the ARACIS Guide. All the data were formally requested from PhD supervisors affiliated to the field, from enrolled doctoral students and from PhD degree holders in the field, as well as from CSUD and the TUCN Doctoral School. The collected data were centralized by the Responsible for the FOOD ENGINEERING Internal Evaluation Report, Prof. Mihaly Cozmuța Mihaela Anca, PhD.

The report was submitted to the TUCN Doctoral School Council and to CSUD for analysis and was endorsed in the TUCN Doctoral School Council and CSUD meeting on June, 24th, 2022. The report was approved by the Board of Directors of the Technical University of Cluj-Napoca on June, 28th, 2022.

This report contains 147 pages including this statement.

Responsible for the FOOD ENGINEERING Internal Evaluation Report

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