# ROMANIAN AGENCY FOR QUALITY ASSURANCE IN HIGHER EDUCATION



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Annex No. 3

# The External Evaluation Report of a Doctoral Study Domain

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# I. Introduction<sup>1</sup>

In this chapter, the following shall be summarized:

- the context in which this external evaluation report was drafted (the type of evaluation, the period of the evaluation visit, the composition of the Experts Committee etc.);
- details about the doctoral school(s) of which the doctoral domain under review is part (number of doctoral advisors, number of students, institutional context, short history etc.);
- details about the doctoral study domain under review (number of students, institutional context, short history etc.).

The evaluation of the doctoral field Electrical Engineering at the "Transilvania" University of Brasov (UTBV) by Prof. Lorand Szabo (Universitatea Tehnica din Cluj-Napoca) as a coordinator, Prof. Danijel TOPIC (J.J. Strossmayer University of Osijek, Croatia) as the international expert, and Anescu MIHAI (Universitatea Politehnica din București) as a student member was performed. The period of the evaluation was from 8th of the November by the 12th of November.

# **General information according to Self-Assessment Document**

"Transilvania" University of Braşov (UNITBV) organizes doctoral and post-doctoral studies within the Organizing Institution of Doctoral University Studies - Transilvania University of Braşov (IOSUD-UNITBV). The Interdisciplinary Doctoral School (SDI) has been operational within IOSUD-UNITBV since the 1st of October 2010, having been established by the Decision of the Senate of Transilvania University of Braşov of July 27th, 2010. Previously, according to GD 567/15 June 2005, the Senate Office of Transilvania University of Braşov decided (HBS no. 43 / 09.09.2005) the establishment of the Doctoral Department on 9 September, 2005. The basic mission of this department was to coordinate all doctoral activities at the university.

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<sup>&</sup>lt;sup>1</sup> Each time when applicable the information shall be presented gender-wise.



On 1st of October 2020 and currently within IOSUD-UNITBV, there are 18 doctoral fields, of which 17 have been authorized to operate provisionally. The doctoral fields within IOSUD-UNITBV active on 1st of October 2020 are:

- 1. Mathematics
- 2. Computer science
- 3. Electrical engineering
- 4. Electronic engineering, telecommunications and information technologies
- 5. Forest engineering
- 6. Silviculture
- 7. Computers and information technology
- 8. Systems engineering
- 9. Mechanical engineering
- 10. Industrial engineering
- 11. Materials engineering
- 12. Engineering and management
- 13. Medicine
- 14. Marketing
- 15. Finances
- 16. Philology
- 17. Music
- 18. Science of sports and physical education

The synthetic data on human resources involved in SDI activity - data valid on 6. 4.2021 are presented in the following table:

| No.            | Category of human resources                                      | Total | Т   | Р  | Ext |
|----------------|--|-------|-----|----|-----|
| 1.a            | Doctoral supervisors affiliated to SDI                           | 161   | 119 | 33 | 9   |
| 1.b            | Doctoral supervisors affiliated to SDI, with full-time doctoral  | 138   | 105 | 26 | 7   |
|                | students   |       |     |    |     |
| 2.a            | Tenured academic teaching staff PPUA I (total)                   | 28    | 25  | 3  | 0   |
| 2.b            | Tenured academic teaching staff PPUA I (doctoral                 | 21    | 20  | 1  | 0   |
|                | supervisors affiliated to SDI)                                   |       |     |    |     |
| 3.a            | Advisory board members for full-time doctoral students           | 370   |     |    |     |
|                | (total)  |       |     |    |     |
| 3.b            | Advisory board members for full-time doctoral students,          | 261   |     |    |     |
|                | except for doctoral supervisors with full-time doctoral          |       |     |    |     |
|                | students   |       |     |    |     |
| TOTAL          | TOTAL 1: Human resource SDI: Doctoral supervisors + tenured PPUA |       | 124 | 35 | 9   |
| (1.a +2.a -2b) |  |       |     |    |     |
| TOTAL          | TOTAL 2: Human resource Doctoral supervisors + advisory board    |       |     |    |     |
| membe          | ers (1b +3b)   |       |     |    |     |

List of the all staff can be found on the following link:

 $\underline{\text{https://www.unitbv.ro/cercetare/doctorat-postdoctorat-si-abilitare/despre-scoala-doctorala/domenii-dedoctorat-si-conducatori}$ 



There are 30 research centres located in 11 buildings. More details about the research centres can be found on the following link: <a href="https://icdt.unitbv.ro/en/">https://icdt.unitbv.ro/en/</a>

Whitin the doctoral field Electrical Engineering there are 6 affiliated Ph.D. supervisors and on the date 6.4.2021. there was 9 students enrolled. In the last 5 years 6 doctoral thesis were defended.

# II. Methods used

This chapter will contain the methods and tools used in the external evaluation process, before and during the evaluation visit, including at least:

- The analysis of the internal evaluation report of the doctoral study domain under review and its Annexes:
- The analysis of documents made available by the IOSUD, in physical format, during the evaluation visit (if such documents have been requested);
- The analysis of documents, data and information available on the IOSUD/Doctoral School(s) website, in electronic format:
- Visiting the buildings included in the institution's property, comprising (indicative and non-exhaustive list, which shall be changed according to the context):
  - classrooms;
  - laboratories;
  - the institution's library;
  - research centers;
  - the Career Counselling and Guidance Center;
  - lecture halls for students;
  - the student residences;
  - the student cafeteria:
  - sports ground etc.;
  - Meeting/discussions with doctoral students in the doctoral study domain under review;
  - Meeting/Discussions with the graduates of the doctoral study domain under review;
  - Meeting/Discussions with employers of the graduates in the doctoral study domain under review;
- Meeting/Discussions with the school officials of the Doctoral School(s) in which the doctoral study domain under review is operating;
  - Meeting/Discussions with the doctoral advisors in the doctoral study domain under review;
- Meeting/discussions with the representatives of the various structures of the IOSUD/Doctoral School(s) in which the doctoral study domain under review is operating:
  - The Council of the Doctoral School, the University Senate, the Board of Directors, the Quality Assessment and Assurance Commission, the Quality Assurance Department, the Ethics Commission (including with the student representatives of these structures);
  - the Career Counselling and Guidance Center;
  - student organizations;
  - secretariats;
  - various departments/administrative offices (Social/Student residences-Cafeterias etc.);
- Application of questionnaires to doctoral students or academic staff in the doctoral study domain under review.



For the evaluation process the following methods and tools have been used:

- The analysis of the internal evaluation report of the IOSUD and its Annexes;
- The analysis of documents, data and information available on the IOSUD/Doctoral School(s) website, in electronic format;
- Online preliminary meeting for the preparation and harmonization of evaluation steps, in hybrid mode, of doctoral study domains and IOSUD Online meeting/discussions with doctoral students in the IOSUD;
- Online meeting with representatives of the institution and of the Council for Academic Doctoral Studies (CSUD)
- Online meeting of Electrical Engineering evaluation panel with the representative and the team who drafted the internal evaluation report
- Online meeting of evaluation panel with the teaching staff of evaluated doctoral field
- Online meeting with the members of the Ethics Commission
- Online meeting with the Commission for Quality Evaluation and Assurance (CEAC) members / Quality Assurance Department
- Online meeting with the Commission for Quality Evaluation and Assurance (CEAC) members / Quality Assurance Department
- Online meeting with PhD students
- Online meeting with Electrical Engineering Domain graduates
- Online meeting with the Directors/ persons in charge of the research centers/laboratories within the doctoral study domains
- Online meeting for conclusions
- Meeting with representatives of the institution under review to discuss on the conclusions of the evaluation process and the main reccomandations

# III. Analysis of ARACIS's performance indicators

# Domain A. INSTITUTIONAL CAPACITY

\*general description of domain analysis.

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

\*general description of the criterion analysis.

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.

\*general description of the standard analysis.

**Performance 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:

- (a) the internal regulations of the Doctoral School;
- (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:



- c) the Methodologies for organizing and conducting doctoral studies (for the admission of doctoral studies);
- d) the existence of mechanisms for recognizing the status of a Doctoral advisor and the equivalence of the doctoral degree obtained abroad;
- e) functional management structures (Council of the doctoral school), giving as well proof of the regularity of meetings;
  - f) the contract for doctoral studies;
- g) internal procedures for the analysis and approval of proposals regarding the training for doctoral study programs based on advanced academic studies.
- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled

The institution organizing doctoral studies has implemented the effective functioning mechanisms provided for in the specific legislation on the organization of doctoral studies. All needed documents have been provided as annexes of the self-assessment report:

- Regulations for the organization and conduct of the doctoral and postdoctoral studies (Annexx A.1.1.1-1), the variant in force at the time of the evaluation was approved by the Senate Decision no. 27 of 21.11.2018.
- Regulations of the Interdisciplinary Doctoral School (Annexx A.1.1.1-2) approved by the Senate Decision no. 14 of 19.07.2017.
- Code of Doctoral Studies
- Methodology on electing the members of the Council of the Interdisciplinary Doctoral School (Annexx A.1.1.1-3)
- Annexx A.1.1.1-4 Evidence regarding the conduct of elections (full-time and partial) for C-SDI members in the current term (2016-2021)
- Methodology for the admission to doctoral studies (Annexx A.1.1.1-5)
- Instruction IS-8 on the completion and public defence of doctoral theses (Annexx A.1.1.1-6)
- Methodology on the automatic recognition at Transilvania University of Braşov of the quality of doctoral supervisor or of the habilitation degree obtained in accredited universities from abroad (Annexx A1.1.1-7)
- Methodology on the recognition at Transilvania University of Braşov of the doctoral diploma and
  of the doctoral degree in sciences or in a professional field obtained abroad (Annexx A.1.1.1-8)
- Annexx A.1.1.1-9 The evidence regarding the organization of C-SDI meetings in the current mandate
- The Contract of doctoral studies (Annexx A.1.1.1-10)
- Additional documents for the periods of interruption, extension and grace (**Annexx A.1.1.1-11**)
- Annexx A.1.1.1-12 The way in which proposals of the subjects for training programme based on advanced academic studies (PPUA) are analysed and approved is regulated by the Specific Instruction IS-7 of the SDI Regulations.



**Performance Indicator A.1.1.2.** The doctoral school' 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 with subsequent amendments and additions.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.

According to art.17, par. 5 of Government Decision of the single doctoral school within IOSUD-UNITBV (681/2011 The regulation) establishes mandatory criteria, procedures and standards regarding the following aspects:

- Instruction IS-1/1 on admitting new doctoral supervisors within SDI (Annexx A.1.1.2-1)
- Instruction IS-1/2 on revoking the doctoral supervisors' affiliation to SDI (Annexx A.1.1.2-2)
- Instruction IS-2 on changing the doctoral supervisor (Annexx A.1.1.2-3)
- Instruction IS-3 on the mediation and settlement of the conflicts related to the doctoral activity (Annexx A.1.1.2-4)
- Instruction IS-4 on the equivalence / recognition of the advanced university training programme (Annexx A.1.1.2-5)
- Instruction IS-5 on conducting the doctoral students' activity (Annexx A.1.1.2-6)
- Instruction IS-6 on the interruption, extension of doctoral studies and on granting the period of grace (Annexx A.1.1.2-7)
- Instruction IS-7 on decision-making regarding the structure and content of PPUA (Annexx A.1.1.2-8)
- Instruction IS-8 on the completion and public defence of doctoral theses (Annexx A.1.1.2-9)
- Prevention of fraud in scientific research, including of plagiarism (**Annexx A.1.1.1-2**, Art. 2 para. (19) lett. (i), Art. 19 para. (9))
- Access to research resources regulated by the Procedure on the use of the equipment at the Research-Development Institute (Annexx A.1.1.2-10)

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

\*general description of the standard analysis.

**Performance Indicator A.1.2.1.** The existence and effectiveness of an appropriate IT system to keep track of doctoral students and their academic background.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:



# The indicator is fulfilled.

The IT system (online electronic platform type) for the record of the doctoral students is currently being implemented. This system will collect the data from the doctoral students' admission phase, including their previous studies; and all the data regarding the advisory board, the doctoral programme, the results obtained over time, the training stage, the doctoral student's status (normal stage, extension, grace, interruption), the situation of the fees (as the case may be), until completion and public defence of the thesis. The platform is available on the following link: <a href="http://doctorat.unitbv.ro/">http://doctorat.unitbv.ro/</a>.

**Annexx A.1.2.1-2.** presents screenshoots of the platform.

**Performance 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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.

Since July 2016 the verification of the originality of all doctoral theses in the completion procedure has been implemented through two online software. The following softwares have been used for checking of the similarity index:

- Sistemantiplagiat.ro (https://sistemantiplagiat.ro/) in the period July 2016 June 2019
- Turnitin software (https://www.turnitin.com/) accessible through the university's e-learning platform (https://elearning.unitbv.ro/) from July 2019 to date.

The service *sistemantiplagiat.ro* was purchased through 3 successive contracts concluded between Transilvania University of Braşov and the company Plagiat-Sistem Antiplagiat through Internet SRL (**Annex A.1.2.2-1**); and thus the needs of anti-plagiarism verification for the doctoral theses that entered the completion procedure between 14.07.2016-1.07.2019 were met.

Turnitin software service for the verification of originality was purchased for two successive periods of 2 years each. The access of – IOSUD-UNITBV to this software through the e-learning platform started on 1.09.2018 and is accessible until 31.08.2022 (**Annex A.1.2.2-2**), and will subsequently be renewed.

Evidence of the usage of softwares to verify the percentage of similarity in all doctoral theses were presented in **Annex A.1.2.2-5a** and **Annex A.1.2.2-5b** and in the following table:



# Doctoral Thesis defended between July 2016-April 2021

| PhD student                | Supervisor     | Similarity<br>coefficient | Similarity coefficient 1 |       | arity<br>:ient 2 |
|----------------------------|----------------|---------------------------|--------------------------|-------|------------------|
| Soft: sistemantiplagiat.ro |                |                           |                          |       |                  |
|                            | Marinescu      |                           |                          |       |                  |
| MUNTEANU Daniel            | Corneliu       |                           | 1,15%                    |       | 0,1%             |
|                            | Marinescu      |                           |                          |       |                  |
| DUCAR Mugur Ioan           | Corneliu       |                           | 4,24%                    |       | 0,09%            |
| MANOLESCU Mihaela Anca     | Sisak Francisk |                           | 9,4%                     |       | 2,73%            |
|                            | Average        |                           |                          |       |                  |
|                            | coefficients   |                           | 4,93%                    |       | 0,973%           |
| Soft: Turnitin             |                | IGS-T                     | IS1-T                    | IS2-T | IS3-T            |
| MORARU Aurelian            | Helerea Elena  | 2%                        | 2%                       | 0     | 1%               |

Standard A.1.3. The IOSUD makes sure that financial resources are used optimally, and the revenues obtained from doctoral studies are supplemented through additional funding besides governmental funding.

**Performance Indicator A.1.3.1.** Existence of at least one research or institutional / human resources development grant under implementation at the time of submission of the internal evaluation file, per doctoral study domain under evaluation, or existence of at least 2 research or institutional development / human resources grant for the doctoral study domain, obtained by doctoral thesis advisors operating in the evaluated domain within the past 5 years. The grants address relevant themes for the respective domain and, as a rule, are engaging doctoral students.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

# Recommendations:

# The indicator is fulfilled.

Within the Doctoral School of Electrical Engineering domain, in the considered evaluation interval, the projects presented in the following table were implemented.

<sup>\*</sup>general description of the standard analysis.



Table A1.3.1. - Research projects implemented in the considered evaluation interval

| Coordinator           | Project 1 between 2016-2021   | Project 2 between 2016-2021   |  |  |
|-----------------------|---|---|--|--|
| MARINESCU<br>Corneliu | International project - LIFE15 CCA /ES /000058_LIFE_CIP Eco Innovation - Sustainable Mountain huts in Europe - SUSTAINHUTS - 89.365 EUR completed   | International project - ERANET / nr. 24/2017 Horizon 2020 - Enabling REsilient urban TRAnsportation systems in smart CiTies_RETRACT - 193.700 EUR Completed 31.12. 2019   |  |  |
| SCUTARU Gheorghe      | National project / partnerships / 32/2012 / High efficiency electric machines, by using advanced technical solutions to predetermine the magnetic properties of laminations. MEF-MAG /400.000 lei Completed |   |  |  |
| SERBAN loan           | National project /RU-TE/268/2015-<br>2017/ Solutions to enhance the<br>dynamic stability of microgrids with<br>renewable energy sources 546.382<br>RON<br>Completed   | Experimental demonstrative project (PED) 2019-2022/ Smart single-phase inverter with minimalist power decoupling circuit for microgrid-connected photovoltaic power plants 597.982RON Withdrawn by coordinator. |  |  |
| BORZA Paul Nicolae    | National project/CERN- RO/16ELI/2016/Interaction camera with integrated beam alignment system Gamma/ELICAM-GAMMA / 574.500 RON Completed 31.12.2019   | international project- FP7 MARIE CURIE - PEOPLE - 2012-2016- ITN- 315967 - Energy efficiency Management for Vehicles and Machines - EMVem - 189.027euro Completed   |  |  |

**Performance Indicator \*A.1.3.2.** The percentage of doctoral students active at the time of the evaluation, who for at least six months receive additional funding sources besides government funding, through scholarships awarded by individual persons or by legal entities, or who are financially supported through research or institutional / human resources development grants is not less than 20%.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is partially fulfilled.



Within the Doctoral School of Electrical Engineering domain, on the reference date 01.04.2021, 9 PhD students were at different stages of their doctoral training, of which 6 have benefited of financial support from public budget( occupants of places financed from budget).

The number of PhD students, financed by the public budget (in the normal 3-year period), who benefited/benefit of other sources of funding too, for a period of at least six months, is 1.

Centralised situation of PhD students financed from public budget, who have bee/are the beneficiary of other financial sources for a minimum period of 6 months is presented in the following table:

| Doctoral field | Total PhD  | Total PhD  | Total      | Total PhD  | Proportion,  | Proportion |          | No of PhD st   | tudents     |        |
|----------------|------------|------------|------------|------------|--------------|------------|----------|----------------|-------------|--------|
|                | students   | students   | current    | students   | according    | PhD        | Sup      | plementary fin | ancial sour | ce     |
|                | benefiting | benefiting | PhD        | benefiting | to criterion | students   | Projects | Scholarships   | Research    | Others |
|                | of budget  | of budget  | students   | of other   | *A.1.3.2     | benefiting | POSDRU   | UniTBv         | grants      |        |
|                | 2016-      | 2016-      | benefiting | sources    | [%]          | of budget  |          |                |             |        |
|                | 2021       | 2021       | of budget  | of         |              | 2016-      |          |                |             |        |
|                |            | and        | funding    | funding    |              | 2021 and   |          |                |             |        |
|                |            | additional |            |            |              | additional |          |                |             |        |
|                |            | funding    |            |            |              | funding    |          |                |             |        |
| Electrical     | 9          | 4          | 6          | 1          | 16,7%        | 44,4       | 0        | 0              | 3           | 1      |
| Engineering    |            |            |            |            |              |            |          |                |             |        |

Among the 9 budgetary students considered in the reporting interval, 4 are the recipients of other financial support, besides the scholarship, for more than 6 months. That means that 44,4% of budgetary students received other financial support (**Annex A 1.3.2**)

**Performance Indicator** \*A.1.3.3.<sup>2</sup> At least 10% of the total amount of doctoral grants obtained by the university through institutional contracts and of tuition fees collected from the doctoral students enrolled in the paid tuition system is used to reimburse professional training expenses of doctoral students (attending conferences, summer schools, training, programs abroad, publication of specialty papers or other specific forms of dissemination etc.).

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

# Recommendations:

The indicator is partially fulfilled.

The amount of doctoral grants obtained by the university through institutional contracts and of tuition fees collected from the doctoral students enrolled in the paid tuition system is centralized collected at the university level. The total amount collected for period 2016-2020 in the following table is presented.

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<sup>&</sup>lt;sup>2</sup> The indicators marked with an asterisk (\*) hold a special status, referring exclusively to the evaluation of doctoral studies domains, as per Article 12 from the annex No.1 of the Order of the minister of education No. 3651/12.04.2021 approving the Methodology for evaluating university doctoral studies and the system of criteria, standards and performance indicators used in the evaluation. In case they are not met, the Agency extends a period of maximum 3 years to IOSUD to correct the respective deficiencies.



| Year | Doctoral budgetary | Own income        | TOTAL        | 10% value  |
|------|--------------------|-------------------|--------------|------------|
|      | allocation         | Doctoral tuitions | INCOME       | [lei]      |
|      | [lei]              | [lei]             | [lei]        |            |
| 2016 | 4.435.200,00       | 511.709,67        | 4.946.909,67 | 494.690,97 |
| 2017 | 4.692.100,00       | 607.344,26        | 5.299.444,26 | 529.944,43 |
| 2018 | 4.660.900,00       | 421.552,10        | 5.082.452,10 | 508.245,21 |
| 2019 | 4.980.200,00       | 472.311,24        | 5.452.511,24 | 545.251,12 |
| 2020 | 5.729.500,00       | 388.162,08        | 6.117.662,08 | 611.766,21 |

The total amount collected for period 2016-2020 is 26 898 979.35 lei. The amount spent on professional training expenses of doctoral students for the same period is 2 633 830.91 lei which is 9,79 % and it is slightly under the 10% required by the analysed criterion.

Data are presented in the following table and in the **Annex A.1.3.3-1** and **Annex A.1.3.3-2**.

| Year                 | TOTAL<br>INCOMES | TOTAL TRAINING EXPENSES SHARE TRAIN  EXPANSES  [lei] [%] |       |
|----------------------|------------------|--|-------|
|                      | [lei]            |  |       |
| 2016                 | 4.946.909,67     | 140.619,79   | 2,84  |
| 2017                 | 5.299.444,26     | 555.316,03   | 10,48 |
| 2018                 | 5.082.452,10     | 711.886,64   | 14,01 |
| 2019                 | 5.452.511,24     | 631.792,47   | 11,59 |
| 2020                 | 6.117.662,08     | 594.215,99   | 9,71  |
| TOTAL<br>(2016-2020) | 26.898.979,35    | 2.633.830,91   | 9,79  |

# Criterion A.2. Research infrastructure

\*general description of the criterion analysis.

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

\*general description of the standard analysis.

**Performance Indicator 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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself



# Recommendations:

The indicator is fulfilled.

The Doctoral School of Electrical Engineering has at the Institute of Research and Technological Development required infrastructure (computers, specific software, apparatus, laboratory equipment, library, access to international databases) at the highest level, which has been permanently updated through the research projects of the members of the Department of Electrical Engineering and Applied Physics. In the online meeting with the Directors of the research centers/laboratories held in the Wednesday, 10.11.2021, I asked do they have funds for the maintaining of the research equipment. The answer was that there is a yearly budget for the maintanance of the equipment ensured by the university.

These data about research equiopment are presented synthetically in **Annex A.2.1.1** and are presented online at: <a href="https://icdt.unitbv.ro/ro/centre-de-cercetare/sisteme-electrice-avansate/infrastructur%C4%83.html">https://icdt.unitbv.ro/ro/centre-de-cercetare/sisteme-electrice-avansate/infrastructur%C4%83.html</a>

# Criterion A.3. Quality of Human Resources

\*general description of the criterion analysis.

Standard A.3.1. At the level of each domain there are sufficient qualified staff to ensure the conduct of doctoral study program.

\*general description of the standard analysis.

**Performance 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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

# Recommendations:

# The indicator is fulfilled.

In the following table, the achievement of standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) of the docotral thesis advisors within the Electrical Engineering domain is presented.

Minimum three doctoral thesis advisors within Electrical Engineering domain are needed. In total there is a 6 PhD supervisors **and this criteria is fullfilled**.

At least 50% of doctoral thesis advisors within Electrical Engineering domain have to meet the minimum standards of CNATDCU. Five of six PhD advisors (83,33%) meet the minimum standards **and this criteria is fullfilled**.



| Nr.<br>crt. | Active PhD supervisors at the moment of evaluation | Status (1) | CNATDCU<br>sheet<br>annexed (2) | Meet<br>minimum<br>standards |
|-------------|--|------------|---------------------------------|------------------------------|
| 1           | Prof.dr.eng Helerea Elena                          | Р          | yes                             | YES                          |
| 2           | Prof.dr.eng Marinescu Corneliu                     | Р          | yes                             | YES                          |
| 3           | Prof.dr.eng Serban Ioan                            | Т          | yes                             | YES                          |
| 4           | Prof.dr.eng Campeanu Radu Mihai                    | Р          | yes                             | No                           |
| 5           | Prof.dr.eng Borza Paul Nicolae                     | Т          | yes                             | YES                          |
| 6           | Prof.dr.eng Fratu Aurel                            | Р          | yes                             | YES                          |

**Performance 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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is partially fulfilled.

According to data in the self-evaluation report, within the doctoral field Electrical Engineering there is a 6 active doctoral supervisors, of which 2 are tenured within IOSUD-Transilvania University of Braşov which is 33%. The proving certificates for the tenured doctoral supervisors within UniTBv are presented in **Annex A.3.1.2.**.

There is a candidate working on the habilitation thesis, fulfilling all the conditions (Assoc.prof. Volmer Marius), and at least 2 candidates for the habilitation, who meet all the conditions according to the CNADTCU sheet (**Annex A.3.1.2**), except for a research contract in competition (they have one), shows that that this condition will be met conditioned by the existence of competitions financed by UEFISCDI, in their case.

**Performance 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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.



The disciplines in the training program based on advanced university studies related to the field are hold by teachers who have the quality of doctoral / qualified supervisor, professor, or associate professor with proven expertise in the field of the subjects taught. This quality of teachers is illustrated in the document Extract of the curriculum 2020-2021 found in **Annex A.3.1.3**, where there are also included the Job title List of the Doctoral School as well as the CVs and Certificates related to the course holders.

**Performance Indicator** \*A.3.1.4. The percentage of doctoral thesis advisors who concomitantly coordinate more than 8 doctoral students, but no more than 12, who are themselves studying in doctoral programs<sup>3</sup> does not exceed 20%.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.

None of the PhD supervisors in the Electrical Engineering Field exceeded 8 PhD students registered at the same time. Data are presented in **Annex A.3.1.4**.

Standard A.3.2. The Doctoral advisors within the domain are carrying out a scientific activity visible at international level.

\*general description of the standard analysis.

Performance 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 associations; guests in conferences or expert groups working abroad, or membership on doctoral defense commissions at universities abroad or co-leading with universities abroad. For Arts and Sports and Physical Education Sciences, doctoral thesis advisors shall prove their international visibility within the past five years by their membership on the boards of professional associations, membership in organizing committees of arts events and international competitions, membership on juries or umpire teams in artistic events or international competitions.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.

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<sup>&</sup>lt;sup>3</sup> 3 years for the doctoral university studies with the duration stipulated at Article 159, paragraph (3), respectively 4 years for the doctoral university studies with the duration stipulated at Article 174, paragraph (3) of the Law of national education No.1/2011 with subsequent amendments and additions, with additional extension periods approved as per Article 39, paragraph (3) of the Code of doctoral studies approved by the GD No. 681/2011 with subsequent amendments and additions.



Out of the total of 6 PhD supervisors 4 of them (66.7%) fullfil the conditions regarding the publications in Web of Science and regarding the other achievements of relevant significance for Electrical Engineering field.

# The data are presented in the following table:

| Nr.  | DhD cuporiicor                  | Meeting        | Meeting         |
|------|---------------------------------|----------------|-----------------|
| crt. | PhD supervisor                  | subcomponent I | subcomponent II |
| 1    | Prof.dr.eng Helerea Elena       | YES            | YES             |
| 2    | Prof.dr.eng Marinescu Corneliu  | YES            | YES             |
| 3    | Prof.dr.eng Campeanu Radu Mihai | NO             | NO              |
| 4    | Prof.dr.eng Borza Paul Nicolae  | YES            | YES             |
| 5    | Prof.dr.eng Serban Ioan         | YES            | YES             |
| 6    | Prof.dr.eng Fratu Aurel         | NO             | NO              |

#### Where:

- Subcomponent I: minimum 5 publications indexed Web of Science or ERIH in journals with impact factor or other achievements with relevant significance, according to the specific of the doctoral field:
- Subcomponent II. international visibility in the past 5 years.

The Centralizers containing the contributions reported by the doctoral supervisors thus selected are presented in **Annex A.3.2.1**.

**Performance 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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.

According to the data presented in the self-evaluation report, out of a total of 6 PhD supervisors affiliated at the time of evaluation, 5 PhD supervisors (83.3%) meet the required score for this indicator based on scientific results from the last 5 years. List of PhD supervisors who meet the requirements in the following table are presented.



| Nr.  | PhD supervisors active at the time of evaluation  | CNATDCU sheet        |                   |
|------|---|----------------------|-------------------|
|      | Prid supervisors active at the time or evaluation | for the last 5       | Meeting indicator |
| crt. |   | years <sup>(1)</sup> |                   |
| 1    | Prof.dr.eng Helerea Elena                         | YES                  | YES               |
| 2    | Prof.dr.eng Marinescu Corneliu                    | YES                  | YES               |
| 3    | Prof.dr.eng Campeanu Radu Mihai                   | YES                  | YES               |
| 4    | Prof.dr.eng Borza Paul Nicolae                    | YES                  | YES               |
| 5    | Prof.dr.eng Serban Ioan                           | YES                  | YES               |
| 6    | Prof.dr.eng Fratu Aurel                           | NO                   | NO                |

# Domain B. EDUCATIONAL EFFECTIVENESS

\*general description of domain analysis.

# Criterion B.1. The number, quality and diversity of candidates enrolled for the admission contest

\*general description of the criterion analysis.

Standard B.1.1. The institution organizing doctoral studies has the capacity to attract candidates from outside the higher education institution or a number of candidates exceeding the number of seats available.

\*general description of the standard analysis.

**Performance Indicator** \*B.1.1.1. The ratio between the number of graduates of masters' programs of other higher education institutions, national or foreign, who have enrolled for the doctoral admission contest within the past five years and the number of seats funded by the state budget, put out through contest within the doctoral domain is at least 0.2 or the ratio between the number of candidates within the past five years and the number of seats funded by the state budget put out through contest within the doctoral studies domain is at least 1,2.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.

For the field of Electrical Engineering, the statistical data for the 2016-2020 period are given in the following Table which resulted from **Annex B.1.1.1-1**.



| Admission Session        | Total number |              | Number of       | The *B.1.1.1 |
|--------------------------|--------------|--------------|-----------------|--------------|
|                          | candidates   | Candidates   | places financed | ratio        |
|                          |              | from other   | from the        |              |
|                          |              | universities | budget          |              |
| 2018                     | 1            | 0            | 1               | 0            |
| 2017                     | 1            | 0            | 1               | 0            |
| 2016                     | 3            | 0            | 1               | 0            |
| 2019                     | 2            | 0            | 1               | 0            |
| 2020                     | 3            | 2            | 2               | 1            |
| Total for the considered | 9            | 2            | 6               | 22,2%        |
| period                   |              |              |                 |              |

For the Electrical Engineering field of study:

- an overall value, for the considered period 2016-2020 regarding the masters studies graduates from other Higher Education Institutions form the country or abroad, of 0,222, compared with the minimum one of 0.2.
- a number of 9 candidates competed for 6 places financed from the state budget, making the ratio between the number of candidates in the last 5 years and the number of places financed from the state budget in the Electrical Engineering field of Doctoral Studies to be 9:6=1,5, compared to the 1,2 value imposed by the criterion.

Standard B.1.2 Candidates admitted to doctoral studies demonstrate academic, research and professional performance.

\*general description of the standard analysis.

**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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

#### Recommendations:

# The indicator is fulfilled.

The admission to doctoral studies is based on a competition, according to the Admission Methodology updated annually and approved by the Senate:

(https://www.unitbv.ro/documente/cercetare/doctorat-postdoctorat/metodologii-rapoarte/Metodologia\_de\_admitere\_la\_doctorat\_2021.pdf).

The number and type of competition tests for each doctoral field are approved by the SDI Council at the doctoral field coordinators' proposal, considering their specificity. Information on the competition themes and on the conduct of the competition is published on the website, with a view to informing the candidates (<a href="https://www.unitbv.ro/cercetare/doctorat-postdoctorat-si-abilitare/admitere/tematica-admitere.html">https://www.unitbv.ro/cercetare/doctorat-postdoctorat-si-abilitare/admitere/tematica-admitere.html</a>).



IOSUD UNITBV applies a consistent quality policy, starting with the candidates' selection and admission according to transparent, non-discriminatory criteria, but based on their previous professional performance, knowledge necessary to approach the doctoral theme, interest in the research, ability to prefigure a research programme for solving the proposed theme.

**Performance Indicator B.1.2.2.** The expelling rate, including renouncement / dropping out of doctoral students 3, respectively 4, years after admission<sup>4</sup> does not exceed 30%.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

#### Recommendations:

#### The indicator is fulfilled.

The expelling rate after 3 years from the registration for Electrical Engineering domain is presented in the following table:

| Admission session               | Total registered candidates | Total expelling after 3 years | Expelling rate after 3 years from admission |
|---------------------------------|-----------------------------|-------------------------------|---|
| 2013                            | 3                           | 0                             | 0   |
| 2014                            | 3                           | 2                             | 66,67 %                                     |
| 2015                            | 1                           | 0                             | 0   |
| 2016                            | 3                           | 1                             | 33,33 %                                     |
| 2017                            | 1                           | 0                             | 0   |
| Total for the considered period | 11                          | 3                             | 27,27 %                                     |

The statistical data centralized at IOSUD –UTBv are presented in Annex B.1.2.2. In case of the Electrical Engineering domain, the following conclusions raised:

- for the PhD students cohorts admitted in the years 2013;2015;2017/2014;2016, the calculated values being 66,66%/2014 and 33.33% for 2016;
- the average value for the considered period (admissions in the 2013-2017 interval), being of 20% comparatively with the maximum value of 30%;
- the global value for the considered period (admissions in the 2013-2017 interval), being of 27,27% comparatively with the maximum value of 30%;

# Criterion B.2. The content of doctoral programs

\*general description of the criterion analysis.

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.

\*general description of the standard analysis.

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<sup>&</sup>lt;sup>4</sup> 3 years for the doctoral university studies with the duration stipulated at Article 159, paragraph (3), respectively 4 years for the doctoral university studies with the duration stipulated at Article 174, paragraph (3) of the Law of national education No. 1/2011 with subsequent amendments and additions.



**Performance 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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

# Recommendations:

# The indicator is fulfilled.

The courses included in the curriculum for the doctoral field of Electrical engineering and as well in the field of Mechanical engineering, Industrial engineering, Computers and information technology, Electronic engineering, telecommunications and information technology, Materials engineering, Systems engineering, Engineering and management, Silviculture, Forestry engineering are presented in the following table.

| No.     | Courses                    | Num | ber of h | ours* |       | ECTS | Course holders              |  |
|---------|----------------------------|-----|----------|-------|-------|------|-----------------------------|--|
|         |                            | С   | S        | L     | Total | 1    |                             |  |
| COMPU   | LSORY DISCIPLINES          | •   | •        | •     |       |      |                             |  |
| 1       | Management and             | 6   | 6        |       | 12    | 5    | Prof. Dr. Eng. Anca DUȚĂ    |  |
|         | resources in research      |     |          |       |       |      |                             |  |
|         | projects                   |     |          |       |       |      |                             |  |
| 2       | Dissemination of research  | 6   | 6        |       | 12    | 5    | Prof. Dr. Eng. Alexandru    |  |
|         | results                    |     |          |       |       |      | Lucian CURTU                |  |
| 3.      | Ethics and academic        | 9   | 6        |       | 15    | 5    | Prof.Dr. Elena COCORADA     |  |
|         | integrity                  |     |          |       |       |      |                             |  |
| 4       | English Language in        | 6   | 6        |       | 12    | 5    | Prof. Dr. Marinela BURADA   |  |
|         | Science (levels 1-3)       |     |          |       |       |      | Prof. Dr. Gabriela CHEFNEUX |  |
| ELECTIV | /E DISCIPLINE PACKAGES     |     |          |       | _     |      |                             |  |
| 5       | Statistics in research     | 6   | 6        |       | 12    | 5    | Prof. Dr. Eng. Ion Cătălin  |  |
|         |                            |     |          |       |       |      | PETRIȚAN                    |  |
|         | Acquisition and processing | 6   |          | 6     |       |      | Assoc. Prof. Dr. Marius     |  |
|         | of experimental data       |     |          |       |       |      | VOLMER                      |  |
| 6       | Creativity and inventics   | 6   |          | 6     | 12    | 5    | Prof. Dr. Eng. Şerban       |  |
|         |                            |     |          |       |       |      | BOBANCU                     |  |
|         | Intellectual property      | 6   |          | 6     |       |      | Inactive 2020/2021          |  |
|         | TOTAL                      | 39  | 36       |       | 75    | 30   |                             |  |

**Note**: For the 30 compulsory credits, the doctoral students attend the disciplines 1-4 and one discipline from the elective packages 5-6

**Performance 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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself

<sup>\*</sup> C= lecture, S = seminar, L = laboratory



- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.

The following courses dedicated to Ethics and Intellectual Property in scientific research are available to PhD students: *Ethics and academic* integrity and *Intellectual property*. They are listed in the table above.

**Performance 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<sup>5</sup>.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.

The training program based advanced academic studies PPUA 1 is oriented towards the learning results, each discipline from the curriculum aiming at forming the competences specified in the courses outline and followed throughout the entire PhD student interaction with the discipline (**Annex B 2.1.1**).

A summary of the competences and study results targeted by the disciplines within the transversal competences module of PPUA 1 is given in the Courses Outline from paragraph B.2.1.1.- (in the self-evaluation report), while the Courses Outline can be found in Annex B.2.1.1.

The synthetic Courses outlines (internal documents of SDI), meant to show the PhD Students the objectives and content of each discipline, as well as the achieved competences and study results, are available online at:

https://intranet.unitbv.ro/Cercetare/Scoala-Doctorala-Interdisciplinara/Doctorat/Program-individual-doctorat

**Performance Indicator B.2.1.4.** All along the duration of the doctoral training, doctoral students in the domain receive counselling/guidance from functional guidance commissions, which is reflected in written guidance and feedback or regular meeting.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.

-

<sup>&</sup>lt;sup>5</sup> Or by what the graduate should know, understand and to be able to do, according to the provisions of the Methodology of 17 March 2017 regarding inscription and registration of higher education qualifications in the National Register of Qualifications in Higher Education (RNCIS) approved by the Order No.3475/2017 with subsequent amendments and additions.



During the entire doctoral stage the PhD students have benefitted from the support of functional guiding commissions that helped to the development of the research papers. For each individual PhD student, the componence of the guiding commission is given in the following summarizing table (Annex B.2.1.4.).

|   | PhD student name and                    | Scientific coordinator | Guiding commission  |                   |                            |     | Reg. | Type of financing |
|---|---|------------------------|---------------------|-------------------|----------------------------|-----|------|-------------------|
|   | surname                                 |                        | M 1                 | M2                | М3                         | M 4 | year |                   |
| 1 | SBANCA L.<br>IULIAN-<br>DORIN           | FRATU Aurel            | MORARU<br>Sorin     | HELEREA<br>Elena  | PERNIU<br>Liviu            |     | 2016 | CFB               |
| 2 | ANGHEL G.<br>GHEORGHE                   | HELEREA<br>Elena       | SCUTARU<br>Gheorghe | LUNGOCI<br>Carmen | CĂLIN<br>Marius<br>Daniel  |     | 2016 | FRT               |
| 3 | POPOV A.<br>ALEXANDRU<br>FLORIAN        | FRATU Aurel            | Florin<br>MORARU    | Elena<br>HELEREA  | Liviu<br>PERNIU            |     | 2017 | CFB               |
| 4 | COJANU D.<br>VLAD                       | Helerea<br>Elena       | Aurel<br>FRATU      | Paul<br>BORZA     | Marius<br>CĂLIN            |     | 2018 | CFB               |
| 5 | HÉJJA A.<br>Rudolf                      | FRATU Aurel            | Sorin<br>Moraru     | Elena<br>Helerea  | Liviu Perniu               |     | 2019 | CFT               |
| 6 | BUIUM G.<br>Dorin                       | FRATU Aurel            | Sorin<br>Moraru     | Elena<br>Helerea  | Liviu Perniu               |     | 2019 | CFB               |
| 7 | IP N. SERPIL                            | BORZA Paul<br>Nicolae  | Elena<br>Helerea    | Doru<br>Ursutiu   | Mihai<br>Machedon-<br>Pisu |     | 2020 | CFB               |
| 8 | MUŞUROI<br>C.T.<br>CRISTIAN-<br>LEONARD | HELEREA<br>Elena       | Marius<br>VOLMER    | Paul<br>BORZA     | Marius<br>Daniel<br>CĂLIN  |     | 2020 | CFB               |

**Performance Indicator B.2.1.5**. For a doctoral study domain, the ratio between the number of doctoral students and the number of teaching staff/researchers providing doctoral guidance must not exceed 3:1.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.

There is 9 PhD students and 11 guiding mentors and the ratio is 9/11 which is below 3:1.



# Criterion B.3. The results of doctoral studies and procedures for their evaluation.

\*general description of the criterion analysis.

Standard B.3.1. Doctoral students capitalize on the research through presentations at scientific conferences, scientific publications, technological transfer, patents, products and service orders.

\*general description of the standard analysis.

**Performance Indicator B.3.1.1.** For the evaluated domain, the evaluation commission will be provided with at least one paper or some other relevant contribution per doctoral student who has obtained a doctor's title within the past 5 years. From this list, the members of the evaluation commission shall randomly select 5 such papers / relevant contributions per doctoral study domain for review. At least 3 selected papers must contain significant original contributions in the respective domain.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

# The indicator is fulfilled.

In the past 5 years (1.01.2016-31.12.2020), within the doctoral domain of Electrical Engineering have been finalized 6 PhD thesis. Following 5 papers have been randomly selected:

- Solutions for energy losses reduction in power networks with renewable energy sources, 2016, 2016 International Conference on Applied and Theoretical Electricity (ICATE), Craiova, Romania
- 2. A control method to provide dynamic support capability for small wind turbines connected in islanded microgrids, 2017, 2017 International Conference on Optimization of Electrical and Electronic Equipment (OPTIM) & 2017 Intl Aegean Conference on Electrical Machines and Power Electronics (ACEMP), Brasov, Romania
- 3. **LED Source, a Comparative Analysis on Lighting Efficiency**, 2016, 2016 International Conference and Exposition on Electrical and Power Engineering (EPE), lasi, Romania,
- 4. Dynamic Performance Analysis of a Photovoltaic Power Plant with Integrated Storage for Microgrids Dynamic Support, Journal of Energy Engineering, 2018.
- **5.** A Procedure for Measurement of Magnetic Characteristics in Quasi-static Regime, 2015., Pollack Periodica, An International Journal for Engineering and Information Sciences.

From the 5 selected papers, on is published in the journal indexed in WoS (paper no. 4), one is published in the journal indexed in Scopus (paper no. 4) and three papers are published on the internationala conferences indexed in the WoS (papers 1 to 3). Selected papers contain significant original contributions in the Electrical Engineering domain.

**Performance Indicator** \*B.3.1.2. The ratio between the number of presentations of doctoral students who completed their doctoral studies within the evaluated period (past 5 years), including posters, exhibitions made at prestigious international events (organized in the country or abroad) and the number of doctoral students who have completed their doctoral studies within the evaluated period (past 5 years) is at least 1.



- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

# Recommendations:

# The indicator is fulfilled.

During the last 5 years (1.01.2016-31.12.2020), in the electrical engineering doctoral domain, a number of 6 PhD theses have been finalized/defended, as being given in the summarizing table from **Annex B.3.2.1**.

The PhD students attended to 21 conferences, of which 8 international conferences were abroad and 13 were prestigious international IEEE conferences organized in the country. Majority of the conferences were indexed in IEEEXplore and ISI-WOS

According to **Annex B.3.1.2**, the ratio between the number of presentations at prestigious international conferences (10) and the number of PhD students that finalized their doctoral studies during the evaluated period (6) is bigger than 1.

Standard B.3.2. The Doctoral School engages a significant number of external scientific specialists in the commissions for public defense of doctoral theses in the analyzed domain.

\*general description of the standard analysis.

**Performance Indicator** \*B.3.2.1. The number of doctoral theses allocated to one specialist coming from a higher education institution, other than the evaluated IOSUD should not exceed two (2) in a year for the theses coordinated by the same doctoral thesis advisor.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

#### Recommendations:

# The indicator is fulfilled.

During the last 5 years (1.01.2016-31.12.2020), in the electrical engineering doctoral domain, a number of 6 PhD theses have been finalized/defended, as being given in the summarizing table from **Annex B.3.2.1.** 

For the field of Electrical Engineering THERE WERE NO cases in which the same expert was part of more than two doctoral commissions for the public defense of theses coordinated by the same doctoral coordinator in the same year (**Annex B.3.2.1.-1**, and **Annex B.3.2.1.-2**).

**Performance Indicator \*B.3.2.2.** The ratio between the doctoral theses allocated to one scientific specialist coming from a higher education institution, other than the institution where the defense on the doctoral thesis is organized, and the number of doctoral theses presented in the same doctoral study domain in the doctoral school should not exceed 0.3, considering the past five years. Only those doctoral study domains in which minimum ten doctoral theses have been presented within the past five years should be analyzed.



- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled/partially fulfilled/not fulfilled.

# Domain C. QUALITY MANAGEMENT

\*general description of domain analysis.

# Criterion C.1. Existence and periodic implementation of the internal quality assurance system

\*general description of the criterion analysis.

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.

\*general description of the standard analysis.

**Performance 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.
- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is partially fulfilled.

The Methodology on the internal evaluation of the Interdisciplinary Doctoral School, (Annex C.1.1.1-1), was drafted by the Council for Doctoral University Studies (CSUD), being approved by the CSUD Decision no. 5 of 6.06.2016. The methodology is available for consultation on the webpage of IOSUD-UNITBV:

(<a href="https://www.unitbv.ro/documente/cercetare/doctorat-postdoctorat/metodologii-rapoarte/Metodologie\_evaluare\_interna\_SDI.pdf">https://www.unitbv.ro/documente/cercetare/doctorat-postdoctorat/metodologii-rapoarte/Metodologie\_evaluare\_interna\_SDI.pdf</a>).

Based on this methodology, the internal evaluation process took place in June 2016, with the evaluation committee proposed by CSUD Decision no. 5 of 6.06.2016 and appointed by the Order of the Rector of Transilvania University of Braşov no. 7996 of 8.06.2016.



The evaluation of PhD supervisors is peroforming by (Annex C.1.1.1-4) **The methodology for periodic internal evaluation of the doctoral supervisors' activity** which was adopted by Council for Doctoral University Studies (CSUD) by CSUD Decision no. 31 of 7.03.2018, and subsequently approved by the University Senate by Decision no. 22 of 09.05.2018.

It is available on the following link: (<a href="https://unitbv.ro/documente/despre-unitbv/regulamente-hotarari/regulamentele-universitatii/angajati/Metodologie\_evaluare\_activ\_cond\_doct.pdf">https://unitbv.ro/documente/despre-unitbv/regulamente-hotarari/regulamentele-universitatii/angajati/Metodologie\_evaluare\_activ\_cond\_doct.pdf</a>).

The evaluation of **the doctoral students' activity**, is peroforming according to the **Specific Instruction IS-5** of SDI Regulation (**Annex C.1.1.1-7**).

The doctoral students' training programme based on advanced academic studies (PPUA) is evaluated annually according to the Specific Instruction IS-7 of the SDI Regulations (Annex C.1.1.1-9).

The periodic evaluation of support services for doctoral students is based on the Methodology on the internal evaluation of the Interdisciplinary Doctoral School (Annex C.1.1.1-1), the provision of these services (eg scholarships, mobility scholarships) is regulated by specific instructions, which are included in the quality management system of the university.

**Performance 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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.

SDI has created appropriate mechanisms to collect the feed-back of the doctoral students on their needs and level of satisfaction with the doctoral study programme. The Specific instruction IS-7 on the decisions related to the content and structure of PPUA

(https://www.unitbv.ro/documente/cercetare/doctorat-postdoctorat/metodologii-rapoarte/v2/IS-7-Structura continutul PPUA -v2.pdf), appendix to the Regulations of SDI, presents the specific stages and the decision-making mechanism regarding the opportunity to periodically modify/ update the structure and content of the advanced university training programme (PPUA) – module I- transversal competencies. This instruction contains specific forms for consultation of doctoral supervisors (Form IS-7-F1) and consultation of doctoral students (Form IS-7-F2 -, presented in **Annex \*C.1.1.2-1**).

At the level of IOSUD-UNITBV, respectively of the Interdisciplinary Doctoral School (SDI), this specific mechanism for collecting feedback from doctoral students was implemented in 2017.

The doctoral students' consultation covers 3 aspects (criteria):



- C1: The assessment of the transversal skills module PPUA 1- with 6 sub-criteria (1.1-1.6) regarding the content of the disciplines, the relevance of the trained skills, the professors' performance, the number of hours- the time budget, the form of evaluation and the organization of the activity by SDI, in a grading system from 1 to 5, in which 1 means inadequate, and 5 adequate;
- **C2**: Global assessment of the usefulness of the transversal skills module PPUA 1, on a scale from 1 to 10, from 1 useless to 10 very useful.
- **Recommendations / proposals** on PPUA 1 disciplines: disciplines that should be replaced, disciplines that should be introduced, other suggestions.

The synthetic centralized results obtained at SDI level after the online consultations in 2018 (July) and 2021 (March - April) are presented in **Annex C.1.1.2-2a** and **Annex C.1.1.2-2b** respectively (selected due to the higher number of respondents).

The results of consultation of the doctoral students from the Electrical Engineering doctoral field are presented as a synthesis in **Annex C.1.1.2-3a**, and **Annex C.1.1.2-3b**.

# Criterion C.2. Transparency of information and accessibility of learning resources

\*general description of the criterion analysis.

Standard C.2.1. Information of interest to doctoral students, future candidates and public interest information is available for electronic format consultation.

\*general description of the standard analysis.

**Performance 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.
- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.



On the website of IOSUD-Transilvania University of Braşov (<a href="https://www.unitbv.ro">https://www.unitbv.ro</a>), which also includes a section dedicated to the Interdisciplinary Doctoral School (<a href="https://www.unitbv.ro/cercetare/doctorat-postdoctorat-si-abilitare.html">https://www.unitbv.ro/cercetare/doctorat-postdoctorat-si-abilitare.html</a>), as well as on the intranet platform of the University – section Doctorate (<a href="https://intranet.unitbv.ro/Cercetare/Scoala-Doctorala-Interdisciplinara/Doctorat">https://intranet.unitbv.ro/Cercetare/Scoala-Doctorala-Interdisciplinara/Doctorat</a>), all the information specified in this indicator is available for consultation as follows:

- a) **the Doctoral School regulation**: <a href="https://unitbv.ro/documente/despre-unitbv/regulamente-hotarari/regulamentele-universitatii/studenti/Regulament\_ul\_scolii\_doctorale\_19.07.2017.pdf">https://unitbv.ro/documente/despre-unitbv/regulamente-hotarari/regulamentele-universitatii/studenti/Regulament\_ul\_scolii\_doctorale\_19.07.2017.pdf</a>
- b) **the admission regulation:** <a href="https://www.unitbv.ro/documente/despre-unitbv/regulamente-hotarari/regulamentele-universitatii/studenti/Metodologia\_de\_admitere\_la\_doctorat\_2021.pdf">https://www.unitbv.ro/documente/despre-unitbv/regulamente-hotarari/regulamentele-universitatii/studenti/Metodologia\_de\_admitere\_la\_doctorat\_2021.pdf</a>
- c) the doctoral studies contract: <a href="https://unitbv.ro/documente/cercetare/doctorat-postdoctorat/contracte/1-UniTBv-Contract\_studii\_doctorale\_2020\_cu\_acord\_publicare-30.03.pdf">https://unitbv.ro/documente/cercetare/doctorat-postdoctorat/contracte/1-UniTBv-Contract\_studii\_doctorale\_2020\_cu\_acord\_publicare-30.03.pdf</a>
- d) the study completion regulation including the procedure for the public presentation of the thesis:

  https://unitbv.ro/documente/cercetare/doctorat-postdoctorat/metodologii-rapoarte/v2/2020-IS-8-Finalizare\_si\_sustinere\_teze-v6-aprobata\_CSUD.pdf
- e) the content of training program based on advanced academic studies: <a href="https://intranet.unitbv.ro/Cercetare/Scoala-Doctorala-Interdisciplinara/Doctorat/Program-individual-doctorat">https://intranet.unitbv.ro/Cercetare/Scoala-Doctorala-Interdisciplinara/Doctorat/Program-individual-doctorat</a>
- f) the academic and scientific profile, thematic areas/research themes of the Doctoral advisors within the domain, as well as their institutional contact data: <a href="https://www.unitbv.ro/cercetare/doctorat-postdoctorat-si-abilitare/despre-scoala-doctorala/domenii-de-doctorat-si-conducatori">https://www.unitbv.ro/cercetare/doctorat-si-conducatori</a>
  <a href="https://www.unitbv.ro/cercetare/doctorat-postdoctorat-si-abilitare/admitere/tematica-admitere.html">https://www.unitbv.ro/cercetare/doctorat-postdoctorat-si-abilitare/admitere/tematica-admitere.html</a>
- g) the list of doctoral students within the domain with necessary information (year of registration; advisor):
  - https://www.unitbv.ro/cercetare/doctorat-postdoctorat-si-abilitare/doctorat-si-postdoctorat.html
- h) information on the standards for developing the doctoral thesis: <a href="https://www.unitbv.ro/documente/cercetare/doctorat-postdoctorat/anunturi/Ghid\_elaborare\_teza.pdf">https://www.unitbv.ro/documente/cercetare/doctorat-postdoctorat/anunturi/Ghid\_elaborare\_teza.pdf</a>
- 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:
  - https://www.unitbv.ro/cercetare/doctorat-postdoctorat-si-abilitare/doctoranzi/sustinere-teza.html

Standard C.2.2. The IOSUD/The Doctoral School provides doctoral students with access to the resources needed for conducting doctoral studies.

\*general description of the standard analysis.

**Performance 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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:



# The indicator is fulfilled.

All PhD students have free access to the relevant academic databases for the Electrical Enginering field for the entire reporting period. The list of relevant databases is presented in **Annex C.2.2.1-1**.

**Performance 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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

# Recommendations:

# The indicator is fulfilled.

From the 1.09.2018. for is secured *Turnitin* software for the verification of the degree of similarity with other existing scientific work (Annex C.2.2.2-2).

The access to the *Turnitin* computer system is ensured for all academic teaching staff members of the university, respectively all doctoral supervisors (including outsiders and retirees), all doctoral students of the university, as well as partly for bachelor's and master's degree students at the university. The access is through the e-learning platform of the university (<a href="https://elearning.unitbv.ro">https://elearning.unitbv.ro</a>)

**Performance 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.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

#### Recommendations:

# The indicator is fulfilled.

The research resources of IOSUD Transilvania University of Braşov are concentrated within the Research-Development Institute - ICDT (https://icdt.unitbv.ro/). In the Research-Development Institute there are 30 research centres, which cover all doctoral fields in the doctoral school. All members of the university academic community, including doctoral students (regardless of the form of education and the funding regime), have the right to use this modern infrastructure, high quality (performance.

Access to research resources being regulated by the Procedure on the use of ICDT equipment, presented in **Annex C.2.2.3-1** which is part of the quality management system of Transilvania University of Braşov..

# Criterion C.3. Internationalization

\*general description of the criterion analysis.

Standard C.3.1. There is a strategy in place and it is applied to enhance the internationalization of doctoral studies.

\*general description of the standard analysis.



**Performance Indicator** \*C.3.1.1. IOSUD, for every evaluated domain, has concluded mobility agreements with universities abroad, with research institutes, with companies working in the field of study, aimed at the mobility of doctoral students and academic staff (e.g., ERASMUS agreements for the doctoral studies). At least 35% of the doctoral students have completed a training course abroad or other mobility forms such as attending international scientific conferences. IOSUD drafts and applies policies and measures aiming at increasing the number of doctoral students participating at mobility periods abroad, up to at least 20%, which is the target at the level of the European Higher Education Area.

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

Recommendations:

The indicator is fulfilled.

Increasing the university's level of internationalization is a strategic objective assumed by the Strategic Plan of Transilvania University of Braşov (<a href="https://www.unitbv.ro/documente/despre-unitbv/info-interes-public/transparenta-insitutionala/planuri/plan-strategic/Plan\_strategic\_2020-2024.pdf">https://www.unitbv.ro/documente/despre-unitbv/info-interes-public/transparenta-insitutionala/planuri/plan-strategic/Plan\_strategic\_2020-2024.pdf</a>).

The programme ERASMUS+ (<a href="https://www.unitbv.ro/studenti/erasmus.html">https://www.unitbv.ro/studenti/erasmus.html</a>) is a consequential pillar in the internationalization strategy of UNITBV and SDI.

The list of the ERASMUS+ agreeents is available at following links:

https://www.unitbv.ro/documente/Studenti/erasmus/mobilitatistudiu/Destinatii SMS KA103 feb 2021b.pdf

https://www.unitbv.ro/documente/Studenti/erasmus/mobilitatistudiu/Destinatii SMS KA107 2019 2020 feb 2021.pdf

In the following table data on outgoing ERASMUS mobility for the reporting period for Electrical Engineering domain is presented:

| Nr.  | Doctoral field         | Tea             | aching mobilit | у     | Tra       | ining mobilit | У     |
|------|------------------------|-----------------|----------------|-------|-----------|---------------|-------|
| crt. |                        | Program Partner |                | TOTAL | Program   | Partner       | TOTAL |
|      |                        | countries       | countries      |       | countries | countries     |       |
|      |                        | (K103)          | (K107)         |       | (K103)    | (K107)        |       |
| 4    | Electrical engineering | 3               | 1              | 4     | 0         |               | 0     |

During the reported period, 6 of 15 (meaning 40%) doctoral students completed a nine external mobilities (training internship and/or participation in international scientific conferences abroad). The situation of these international mobilities is summarized in the PhD student mobility centralizer from **Annex C.3.1.1-5**, with the related evidence attached.

**Performance Indicator C.3.1.2.** In the evaluated doctoral study domain, support is granted, including financial support, to the organization of doctoral studies in international co-tutelage or invitation of leading experts to deliver courses/lectures for doctoral students.



- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

#### Recommendations:

# The indicator is partially fulfilled.

During the reporting period, doctoral students from various doctoral fields benefited from courses, lectures, workshops, meetings, etc. with specialists / experts / professors invited from abroad, their presence being facilitated through the ERASMUS+ programme (incoming teaching mobility) and other specific programmes developed in the university and financed from their own funds (e.g. Fellowship for Visiting Professors, Guests at Transilvania University, Keynote Speaker).

Synthetic data on internationalization through theses in co-tutorship, invitation of experts and writing of theses in international languages are presented in the following table:

| No. | Doctoral fields        | Theses<br>written in<br>international<br>co-tutorship | Internation<br>giving course<br>for doctora<br>ERASMUS+ | s / lectures | Doctoral theses<br>drafted/ defended<br>in a foreign<br>language<br>(English) |
|-----|------------------------|---|---|--------------|---|
| 1   | Electrical engineering | 1   | 2   |              | 1   |

**Performance Indicator C.3.1.3.** The internationalization of activities carried out during the doctoral studies is supported by IOSUD through concrete measures (e.g., by participating in educational fairs to attract international doctoral students; by including international experts in guidance committees or doctoral committees etc.).

- description of the facts, the findings from the assessed institution's documents and the evaluation visit itself
- analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself

# Recommendations:

# The indicator is fulfilled.

A conclusive example of IOSUD-UNITBV's actions to attract international PhD students is the Transilvania Academica Scholarship (TAS programme.) (<a href="https://tas.unitbv.ro/">https://tas.unitbv.ro/</a>) by which up to 15 scholarships from the university's own income are granted every year, based on a competition, to the best performing international students from non-EU or EEA member countries.

The programme, unique in the country, was launched in 2017; currently, 7 doctoral students benefiting from TAS scholarships or assimilated TAS, are in their training stage. TAS assimilated scholarships are granted by Decision of the Executive Board of UNITBV to graduates of higher education institutions from third countries, with which collaboration agreements have been concluded, or to other candidates identified by the Romanian Consular Missions in third countries.

The Doctoral School of Electrical Engineering has not yet accessed this facility, although external requests have existed.



# IV. SWOT Analysis

| Strengths:   | Weaknesses:  |
|--|--|
| <ul> <li>Research infrastructure available to the Ph.D. students.</li> <li>Free access for all Ph.D. students to all relevant databases of scientific papers.</li> <li>Students are very satisfied with their supervisors.</li> <li>Cooperation with the industry</li> </ul> | <ul> <li>Lack of interest of students from the other<br/>universities (including internationa) for<br/>study admission.</li> </ul> |
| Opportunities:   | <u>Threats:</u>  |
| <ul> <li>Stronger cooperation with industry in terms of employing of the graduate doctors</li> <li>Electrical engineering is a highly demanded professional field on the labor market.</li> <li>Stronger internationalization.</li> </ul>                                    | Low financial support offered to Ph.D. students by the state   |

# V. Overview of judgments awarded and of the recommendations

| No. | Type of indicator (PI, PI*, CPI) | Performance indicator   | Judgment  | Recommendations |
|-----|----------------------------------|---|-----------|-----------------|
| 1.  | PI                               | 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 regulations of the Doctoral School; 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; c) the Methodologies for organizing and conducting doctoral studies (for the admission of doctoral students, for the completion of doctoral studies); d) the existence of mechanisms for recognizing the status of a Doctoral advisor and the equivalence of the doctoral degree obtained abroad; | fulfilled |                 |



|    |     | e) functional management structures (Council of the doctoral school), giving as well proof of the regularity of meetings; f) the contract for doctoral studies; g) internal procedures for the analysis and approval of proposals regarding the training for doctoral study programs based on advanced academic studies.  |                        |  |
|----|-----|---|------------------------|--|
| 2. | PI  | A.1.1.2. The doctoral school' 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 with subsequent amendments and additions.  | fulfilled              |  |
| 3. | PI  | <b>A.1.2.1.</b> The existence and effectiveness of an appropriate IT system to keep track of doctoral students and their academic background.   | fulfilled              | This recommendation is more as advice (not mandatory). Since you are collecting all the data about the achievements of the PhD students, maybe it would be good to award the best PhD students every year. Maybe prepare some regulations about awarding the best PhD students (if you don't have such a regulation). This can encourage PhD students to be better researchers and to achieve better results.                                    |
| 4. | PI  | <b>A.1.2.2.</b> The existence and use of an appropriate software program and evidence of its use to verify the percentage of similarity in all doctoral theses.   | fulfilled              |  |
| 5. | IP  | A.1.3.1. Existence of at least one research or institutional / human resources development grant under implementation at the time of submission of the internal evaluation file, per doctoral study domain under evaluation, or existence of at least 2 research or institutional development / human resources grant for the doctoral study domain, obtained by doctoral thesis advisors operating in the evaluated domain within the past 5 years. The grants address relevant themes for the respective domain and, as a rule, are engaging doctoral students. | fulfilled              | This recommendation is more as advice (not mandatory). It would be good to have a regulation on the institution level which will award researchers who apply for grants for research projects and for researchers who have been approved research projects. This will encourage PhD advisors to apply for more projects and increase the possibility to get more new PhD student positions. In this way number of PhD students can be increased. |
| 6. | PI* | A.1.3.2. The percentage of doctoral students active at the time of the evaluation, who for at least six months receive additional funding sources besides government funding, through scholarships awarded by individual persons or by legal entities, or who are financially   | Partially<br>fulfilled | Increase the cooperation with industry.  Maybe partners from the industry can find interest in some of the researches and in this way financially support PhD students.  |



|    |     | supported through research or institutional / human resources development grants is not less than 20%.  |                     |   |
|----|-----|---|---------------------|---|
| 7. | PI* | A.1.3.3. At least 10% of the total amount of doctoral grants obtained by the university through institutional contracts and of tuition fees collected from the doctoral students enrolled in the paid tuition system is used to reimburse professional training expenses of doctoral students (attending conferences, summer schools, training, programs abroad, publication of specialty papers or other specific forms of dissemination etc.).  | Partially fulfilled | From the amounts of doctoral grants obtained by the university through institutional contracts and of tuition fees collected from the doctoral students enrolled in the paid tuition system some specific percentage can be yearly used for the projects PhD students. On the level of Electrical Engineering domain University organizes tender for PhD Students' projects. PhD students in agreement with their supervisors apply their project. Through these projects, students can receive funds for attending the conference, pay fees for journals, buy some small equipment (e.g. laptop), etc. In this way, students can gain experience in writing project proposals, and later when they finish PhD they can easily apply their own projects for international and national research grants. |
| 8. | СРІ | 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 | fulfilled           |   |
| 9. | СРІ | 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.  | fulfilled           |   |



| 10. | PI* | <b>A.3.1.2.</b> At least 50% of all doctoral advisors have a full-time employment contract for an indefinite period with the IOSUD.   | Partially fulfilled |  |
|-----|-----|---|---------------------|--|
| 11. | PI  | 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.   | fulfilled           |  |
| 12. | PI* | A.3.1.4. The percentage of doctoral thesis advisors who concomitantly coordinate more than 8 doctoral students, but no more than 12, who are themselves studying in doctoral programs does not exceed 20%.  | fulfilled           |  |
| 13. | CPI | 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 coleading with universities abroad. For Arts and Sports and Physical Education Sciences, doctoral thesis advisors shall prove their international visibility within the past five years by their membership on the boards of professional associations, membership in organizing committees of arts events and international competitions, membership on juries or umpire teams in artistic events or international competitions. | fulfilled           |  |



| 14. | PI* | 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  | fulfilled |  |
|-----|-----|--|-----------|--|
| 15. | PI* | <b>B.1.1.1.</b> The ratio between the number of graduates of masters' programs of other higher education institutions, national or foreign, who have enrolled for the doctoral admission contest within the past five years and the number of seats funded by the state budget, put out through contest within the doctoral domain is at least 0.2 or the ratio between the number of candidates within the past five years and the number of seats funded by the state budget put out through contest within the doctoral studies domain is at least 1,2. | fulfilled | Recommendation is to develop a strategy for the promotion of doctoral study on state and international level to attract master students from other universities and other countries to enroll study. |
| 16. | PI* | 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.   | fulfilled |  |
| 17. | PI  | B.1.2.2. The expelling rate, including renouncement / dropping out of doctoral students 3, respectively 4, years after admission does not exceed 30%.  | fulfilled |  |
| 18. | PI  | 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.   | fulfilled |  |
| 19. | PI  | <b>B.2.1.2.</b> 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.   | fulfilled |  |



| 20. | PI  | 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.   | fulfilled |
|-----|-----|---|-----------|
| 21. | PI  | <b>B.2.1.4.</b> All along the duration of the doctoral training, doctoral students in the domain receive counselling/guidance from functional guidance commissions, which is reflected in written guidance and feedback or regular meeting.   | fulfilled |
| 22. | СРІ | <b>B.2.1.5</b> . For a doctoral study domain, the ratio between the number of doctoral students and the number of teaching staff/researchers providing doctoral guidance must not exceed 3:1.   | fulfilled |
| 23. | СРІ | B.3.1.1. For the evaluated domain, the evaluation commission will be provided with at least one paper or some other relevant contribution per doctoral student who has obtained a doctor's title within the past 5 years. From this list, the members of the evaluation commission shall randomly select 5 such papers / relevant contributions per doctoral study domain for review. At least 3 selected papers must contain significant original contributions in the respective domain | fulfilled |
| 24. | PI* | B.3.1.2. The ratio between the number of presentations of doctoral students who completed their doctoral studies within the evaluated period (past 5 years), including posters, exhibitions made at prestigious international events (organized in the country or abroad) and the number of doctoral students who have completed their doctoral studies within the evaluated period (past 5 years) is at least 1.   | fulfilled |
| 25. | PI* | <b>B.3.2.1.</b> The number of doctoral theses allocated to one specialist coming from a higher education institution, other than the evaluated IOSUD should not exceed two (2) in a year for the theses coordinated by the same doctoral thesis advisor.  | fulfilled |



| 26. | PI* | B.3.2.2. The ratio between the doctoral theses allocated to one scientific specialist coming from a higher education institution, other than the institution where the defense on the doctoral thesis is organized, and the number of doctoral theses presented in the same doctoral study domain in the doctoral school should not exceed 0.3, considering the past five years. Only those doctoral study domains in which minimum ten doctoral theses have been presented within the past five years should be analyzed.  |           |  |
|-----|-----|---|-----------|--|
| 27. | PI  | 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. | fulfilled |  |
| 28. | PI* | 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.   | fulfilled |  |
| 29. | СРІ | 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;   | fulfilled |  |



|     |     | 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. |           |   |
|-----|-----|---|-----------|---|
| 30. | PI  | <b>C.2.2.1.</b> All doctoral students have free access to one platform providing academic databases relevant to the doctoral studies domain of their thesis.  | fulfilled |   |
| 31. | PI  | 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.  | fulfilled |   |
| 32. | PI  | 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.   | fulfilled |   |
| 33. | PI* | C.3.1.1. IOSUD, for every evaluated domain, has concluded mobility agreements with universities abroad, with research institutes, with companies working in the field of study, aimed at the mobility of doctoral students and academic staff (e.g., ERASMUS agreements for the doctoral studies). At least 35% of the doctoral students have completed a training course abroad or other mobility forms such as attending international scientific conferences. IOSUD drafts and applies policies and measures aiming at increasing the number of doctoral students participating at mobility periods abroad, up to at least 20%, which is the target at the level of the European Higher Education Area.                                      | fulfilled | Through the students' projects recommended for indicator A 1.3.3. the number of students attending international conferences can be increased.  Once a year you can organize workshops for the promotion of Erasmus mobility and encourage students to apply. |



| 34. | PI | C.3.1.2. In the evaluated doctoral study domain, support is granted, including financial support, to the organization of doctoral studies in international co-tutelage or invitation of leading experts to deliver courses/lectures for doctoral students.   | fulfilled |  |
|-----|----|--|-----------|--|
| 35. | PI | C.3.1.3. The internationalization of activities carried out during the doctoral studies is supported by IOSUD through concrete measures (e.g., by participating in educational fairs to attract international doctoral students; by including international experts in guidance committees or doctoral committees etc.). | fulfilled |  |

The recommendations contained in the report shall be resumed in the indicators' analysis. Other general recommendations may be made that do not fit within a particular indicator.

VERY IMPORTANT!!! – Each identified weakness must be correlated with at least one recommendation to improve the situation!



## VI. Conclusions and general recommendations

Several important issues raised during the evaluation are resumed and some general conclusions are drawn on the quality of the education provided within the doctoral study domain under review; the Experts' Panel also presents general assessments about the institution. Other general recommendation may also be presented, which cannot be related to a specific indicator and have not been presented at point V.

A decision is proposed, together with the reasons for granting it (if the Experts' Panel members do not reach a consensus, each of them can propose and argue his/her own decision).

#### Recommendations

- Recommendation is to develop a strategy for the promotion of doctoral study on state and international level to attract master students from other universities and other countries to enroll study.
  - Dr. Danijel Topić, Associate Professor

### VII. Annexes

The following types of documents shall be attached:

- The detailed schedule of the evaluation visit MANDATORY.
- The survey questionnaire applied to doctoral students or academic staff in the doctoral study domain under review, the results optional (e.g., in graphic form) and their interpretation if applicable.
- Scanned documents any document requested from the IOSUD during the evaluation visit and received, which is not found in the internal evaluation file received before the visit and referred to in the report.
- Pictures if relevant issues are raised regarding the condition of the student residences, cafeterias, premises for teaching and learning activities, library etc.
- Screenshots/Print screens of the Doctoral School/IOSUD website proving specific claims in the report, accompanied by the date when they were accessed and saved.
- Any other documents relevant to the evaluation process referred to in the report.



## AGENȚIA ROMÂNĂ DE ASIGURARE A CALITĂȚII ÎN ÎNVĂȚĂMÂNTUL SUPERIOR

Membră în Asociația Europeană pentru Asigurarea Calității în Învățământul Superior - **ENQA** Înscrisă în Registrul European pentru Asigurarea Calității în Învățământul Superior - **EQAR** 

Nr. 6295 / 04.11.2021

# Programul de evaluare IOSUD și a domeniilor de studii universitare de doctorat a *Universitatea Transilvania din Brasov (UTBV)*

The timetable for the evaluation of IOSUD and doctoral study domains at the "Transilvania" University of Brasov (UTBV)

Perioada de derulare a evaluării / The evaluation period: 08-12.11.2021

| Intervalul orar/ Hour | Activități de evaluare/ Evaluation activities  | Participanți/ Participants   |
|-----------------------|--|--|
|                       | Luni/ <i>Monday</i> , 08.11.2021   |  |
| 08:30-<br>09:50       | Întâlnire preliminară online pentru pregătirea și armonizarea etapelor de evaluare, în modul mixt, la nivel de domenii de doctorat și IOSUD  Online preliminary meeting for the preparation and harmonization of evaluation steps, in hybrid mode, of doctoral study domains and IOSUD | Comisiile de evaluare pentru IOSUD și domenii de doctorat IOSUD&doctoral domains evaluation panels   |
|                       | Link întâlnire ZOOM (ARACIS) / Meeting link ZOOM platform (by ARACIS): LINK Aracis 43  |  |
| 10:00-<br>10:50       | Întâlnirea online a comisiei de experți evaluatori cu reprezentanții conducerii universității și ai CSUD  Online meeting with representatives of the institution and of the Council for Academic Doctoral Studies (CSUD)   | Comisiile de evaluare pentru IOSUD și domenii de doctorat IOSUD&doctoral domains evaluation panels  - reprezentanți ai conducerii representatives of the University's management   |
|                       | Link întâlnire ZOOM (UTBV) / Meeting link ZOOM platform (by UTBV) : LINK   | <ul> <li>reprezentanţi ai CSUD şi ai şcolii/şcolilor doctorale representatives of the CSUD and of the Doctoral School/Schools</li> <li>persoana de contact IOSUD/domenii the contact person for IOSUD/ doctoral domains</li> </ul> |



| Intervalul<br>orar/ Hour | Activități de evaluare   | / Evaluation activities   | Participanți/ Participants   |
|--------------------------|--|---|--|
| 11:00-<br>11:50          | demoniului de etudii universitare de destarat evaluat si su esbina care a realizat reportul de   |   | <ul> <li>Comisiile de evaluare domenii de doctorat         Doctoral domains evaluation panels     </li> <li>responsabilul domeniului de studii universitare de doctorat evaluat și echipa care a realizat raportul de evaluare internă</li> </ul>  |
|                          | Informatică / Informatics LINK  Calculatoare și tehnologia informației / Computers and Information Technology LINK Inginerie electrică / Electrical Engineering LINK Inginerie forestieră / Forestry Engineering LINK Silvicultură / Forestry LINK   | Inginerie mecanică /  Mechanical Engineering LINK Inginerie industrială / Industrial Engineering LINK Medicină / Medicine LINK  Finanțe / Finance LINK  Marketing / Marketing LINK            | The doctoral studies domain contact person and the team who drafted the internal evaluation report   |
| 12:00-<br>12:50          | Domeniu doctorat 2: Întâlnire online a comisiei de experți evaluatori cu responsabilul domeniului de studii universitare de doctorat evaluat și cu echipa care a realizat raportul de evaluare internă  Doctoral domain 2: Online meeting with the contact person for the doctoral study domain under review and the team who drafted the internal evaluation report  Linkuri întâlniri ZOOM (UTBV) / Meeting links ZOOM platform (by UTBV): |   | <ul> <li>Comisiile de evaluare domenii de doctorat         Doctoral domains evaluation panels     </li> <li>responsabilul domeniului de studii universitare de doctorat evaluat și echipa care a realizat raportul de evaluare internă         The doctoral studies domain contact person and the team     </li> </ul> |
|                          | Ingineria sistemelor / Systems Engineering LINK Inginerie electronică, telecomunicații și tehnologii informaționale / Electronics engineering, telecommunications and information technologies Ingineria materialelor / Materials Engineering LINK   | Inginerie și management / Engineering and Management LINK Filologie / Philology LINK  Muzică / Music LINK  Știința sportului și educației fizice / Sports Science and Physical Education LINK | who drafted the internal evaluation report   |



| Intervalul<br>orar/ Hour | Activități de evaluare   | / Evaluation activities | Participanți/ Participants   |
|--------------------------|--|-------------------------|--|
| 13:00-<br>13:50          | <u>IOSUD</u> : Întâlnire online cu directorul CSUD/directorii școlilor doctorale din IOSUD supus procesului de evaluare și cu echipa care a realizat raportul de evaluare internă <u>IOSUD</u> : Online meeting with the director of CSUD/ directors of doctoral schools and the team who drafted the internal evaluation report  Link întâlnire ZOOM (UTBV) / Meeting link ZOOM platform (by UTBV): LINK      |                         | - Comisia de evaluare IOSUD  IOSUD evaluation panel  - reprezentanți ai CSUD și ai școlii/școlilor doctorale/ IOSUD  representatives of CSUD and of doctoral school(s)/IOSUD |
| 14:00-<br>14:50          | IOSUD: Întâlnire online a comisiei de evaluare cu reprezentanți ai absolvenților IOSUD IOSUD: Online meeting with IOSUD graduates  Link întâlnire ZOOM (UTBV) / Meeting link ZOOM platform (by UTBV): LINK   |                         | - Comisia de evaluare IOSUD  IOSUD evaluation panel  - reprezentanți ai absolvenților representatives of doctoral graduates  |
| 15:00-<br>15:50          | Domeniu doctorat 1: Întâlnire online a comisie domeniului  Doctoral domain 1: Online meeting with gradue  Linkuri întâlniri ZOOM (UTBV) / Meeting links  Informatică / Informatics LINK  Calculatoare și tehnologia informației / Computers and Information Technology LINK  Inginerie electrică / Electrical Engineering LINK  Inginerie forestieră / Forestry Engineering LINK  Silvicultură / Forestry LINK | ,                       | - Comisiile de evaluare domenii de doctorat  Doctoral domains evaluation panels  - reprezentanți ai absolvenților representatives of doctoral graduates                      |



| Intervalul orar/ Hour | Activități de evaluare/ Evaluation activities   | Participanți/ Participants   |
|-----------------------|---|--|
| 16:00-<br>16:50       | <u>Domeniu doctorat 2:</u> Întâlnire online a comisiei de evaluare cu <b>reprezentanți ai absolvenților</b> domeniului <u>Doctoral domain 2:</u> Online meeting with graduates for the respective doctoral study domain   | - Comisiile de evaluare domenii de doctorat  Doctoral domains evaluation panels  |
|                       | Linkuri întâlniri ZOOM (UTBV) / Meeting links ZOOM platform (by UTBV):  | - reprezentanți ai absolvenților representatives of doctoral graduates   |
|                       | Matematică / Mathematics LINK Ingineria sistemelor / Systems Engineering LINK Inginerie electronică, telecomunicații și tehnologii informaționale / Electronics engineering, telecommunications and information technologies Ingineria materialelor / Materials Engineering LINK  Inginerie și management / Engineering and Management   Elologie / Philology LINK  Muzică / Music LINK  Sțiința sportului și educației fizice / Sports Science and Physical Education LINK |  |
| 17:00 -<br>18:00      | Întâlnire online cu membrii <b>Comisiei pentru Evaluarea și Asigurarea Calității (CEAC)</b> / Departamentul de asigurare a calității  Online meeting with the Commission for Quality Evaluation and Assurance (CEAC) members/ Quality Assurance Department  | - Comisiile de evaluare pentru IOSUD și domenii de doctorat IOSUD&doctoral domains evaluation panels   |
|                       | Link întâlnire ZOOM (UTBV) / Meeting link ZOOM platform (by UTBV): LINK   | - reprezentanţi ai CEAC/Departament AC<br>representatives of Commission for Quality Evaluation and<br>Assurance (CEAC)/ Quality Assurance Department |



|                  | Marţi/ <i>Tuesday</i> , 09.11.2021   |  |
|------------------|--|--|
| 09:00 -<br>09:50 | Întâlnire online cu membrii <b>Comisiei de Etică</b> a universității  Online meeting with the members of the Ethics Commission   | - Comisiile de evaluare pentru IOSUD și domenii de doctorat                  |
|                  | Link întâlnire ZOOM (UTBV) / Meeting link ZOOM platform (by UTBV): LINK  | IOSUD&doctoral domains evaluation panels -membrii Comisiei de Etică          |
|                  |  | Ethics Commission members  |
| 10:00 -<br>10:50 | IOSUD: Întâlnire online a comisiei de experți evaluatori cu <b>personalul didactic</b> aferent școlilor doctorale din IOSUD  IOSUD: Online meeting with IOSUD academic staff | - Comisia de evaluare pentru IOSUD IOSUD evaluation panel                    |
|                  | Link întâlnire ZOOM (UTBV) / Meeting link ZOOM platform (by UTBV) : LINK   | - cadre didactice cu titlul de conducător de doctorat  Doctoral coordinators |



| 11:00-<br>11:50 | <u>Doctoral domain 1:</u> Online meeting with the academic staff corresponding to the doctoral study domain  Linkuri întâlniri ZOOM (UTBV) / Meeting links ZOOM platform (by UTBV):   |  | - Comisiile de evaluare domenii de doctorat  Doctoral domains evaluation panels  - cadre didactice cu titlul de conducător de doctorat                        |
|-----------------|---|--|---|
|                 | Informatică / Informatics LINK  Calculatoare și tehnologia informației / Computers and Information Technology LINK Inginerie electrică / Electrical Engineering LINK Inginerie forestieră / Forestry Engineering LINK Silvicultură / Forestry LINK  | Inginerie mecanică /  Mechanical Engineering LINK Inginerie industrială / Industrial Engineering LINK Medicină / Medicine LINK  Finanțe / Finance LINK  Marketing / Marketing LINK | Doctoral coordinators   |
| 12:00-<br>12:50 | Domeniu doctorat 2: Întâlnire online a comisiei de experți evaluatori cu personalul didactic aferent domeniului evaluat  Doctoral domain 2: Online meeting with the academic staff corresponding to the doctoral study domain  Linkuri întâlniri ZOOM (UTBV) / Meeting links ZOOM platform (by UTBV):  Matematică / Mathematics LINK Inginerie și management / Engineering and Management LINK Ingineria sistemelor / Filologie / Philology LINK Systems Engineering LINK Inginerie electronică, telecomunicații și Muzică / Music LINK |  | - Comisiile de evaluare domenii de doctorat  Doctoral domains evaluation panels  - cadre didactice cu titlul de conducător de doctorat  Doctoral coordinators |
|                 | tehnologii informaționale / Electronics engineering, telecommunications and information technologies Ingineria materialelor / Materials Engineering LINK  | Știința sportului și educației fizice / Sports Science and Physical Education LINK   |   |



| 13:00-<br>13:50 | Doctoral domain 1: Online meeting with DhD students   |  | - Comisiile de evaluare domenii de doctorat  Doctoral domains evaluation panels |
|-----------------|---|--|---|
|                 | Linkuri întâlniri ZOOM (ARACIS) / Meeting linkum Informatică / Informatics LINK Aracis43  Calculatoare și tehnologia informației / Computers and Information Technology LINK Aracis 44  Inginerie electrică / Electrical Engineering LINK Aracis 45  Inginerie forestieră / Forestry Engineering LINK Aracis 46  Silvicultură / Forestry LINK Aracis 47                       | Inginerie mecanică / Mechanical Engineering LINK Aracis 49 Inginerie industrială / Industrial Engineering LINK Aracis 50  Medicină / Medicine LINK Aracis 51  Finanțe / Finance LINK Aracis 52  Marketing / Marketing LINK Aracis 54 | - studenții doctoranzi PhD students   |
| 14:00-<br>14:50 | <u>Domeniu doctorat 2:</u> Întâlnire online a comisiei de evaluare cu <b>studenții doctoranzi</b> <u>Doctoral domain 2:</u> Online meeting with PhD students  |  | - Comisiile de evaluare domenii de doctorat  Doctoral domains evaluation panels |
|                 | Linkuri întâlniri ZOOM (ARACIS) / Meeting link Matematică / Mathematics LINK Aracis 43  Ingineria sistemelor / Systems Engineering LINK Aracis 44 Inginerie electronică, telecomunicații și tehnologii informaționale / Electronics engineering, telecommunications and information technologies LINK Aracis 45 Ingineria materialelor / Materials Engineering LINK Aracis 46 | Inginerie și management / Engineering and Management LINK Aracis 47 Filologie / Philology LINK Aracis 49  Știința sportului și educației fizice / Sports Science and Physical Education LINK Aracis 50                               | - studenții doctoranzi PhD students   |



| 15:00-<br>15:50 | IOSUD: Întâlnire online a comisiei de evaluare cu <b>studenții doctoranzi</b> IOSUD: Online meeting with PhD students  Link întâlniri ZOOM (ARACIS) / Meeting link ZOOM platform (by ARACIS): LINK Aracis 43   | - Comisia de evaluare IOSUD  IOSUD evaluation panel  - studenții doctoranzi  PhD students   |
|-----------------|--|---|
| 16:00-<br>16:50 | Întâlnire tehnică online, pentru identificarea aspectelor specifice care trebuie clarificate, dacă este cazul, pe parcursul vizitei la fața locului  Online technical meeting to identify specific issues that need to be clarified, if necessary, during the on-site visit  Link întâlniri ZOOM (ARACIS) / Meeting link ZOOM platform (by ARACIS): LINK Aracis 44 | Comisiile de evaluare pentru IOSUD și domenii de doctorat IOSUD&doctoral domains evaluation panels  |
| 17:00-<br>17:50 | Domeniu doctorat 2: Întâlnire online a comisiei de evaluare cu studenții doctoranzi  Doctoral domain 2: Online meeting with PhD students  Muzică / Music  Link întâlnire ZOOM (ARACIS) / Meeting link ZOOM platform (by ARACIS): LINK Aracis 43  | <ul> <li>Comisia de evaluare pentru domeniul de doctorat Muzică<br/>Music doctoral domain evaluation panel</li> <li>studenții doctoranzi pentru domeniul de doctorat Muzică<br/>Music PhD students</li> </ul> |
|                 | Miercuri/ Wednesday, 10.11.2021  |   |
| 09:00-<br>09:50 | IOSUD: Întâlnire online cu directorii/responsabilii centrelor/laboratoarelor de cercetare IOSUD IOSUD: Online meeting with the Directors/ persons in charge of the research centers/laboratories within IOSUD  Link întâlnire ZOOM (UTBV) / Meeting link ZOOM platform (by UTBV): LINK   | - Comisia de evaluare IOSUD IOSUD evaluation panel - directorii centrelor/ laboratoarelor de cercetare Directors of the research centers/laboratories   |



| 10:00-<br>10:50 | cercetare aferente domeniului de studii universitare de doctorat <u>Doctoral domain 1:</u> Online meeting with the Directors/ persons in charge of the research centers/laboratories within the doctoral study domain  |  | - Comisiile de evaluare domenii de doctorat  Doctoral domains evaluation panels  - directorii centrelor/ laboratoarelor de cercetare  directors of research centers/laboratories |
|-----------------|--|--|--|
|                 | Informatică / Informatics  Calculatoare și tehnologia informației / Computers and Information Technology Inginerie electrică / Electrical Engineering LINK Inginerie forestieră / Forestry Engineering LINK Silvicultură / Forestry LINK   | Inginerie mecanică /  Mechanical Engineering LINK Inginerie industrială / Industrial Engineering LINK Medicină / Medicine LINK Finanțe / Finance LINK Marketing / Marketing LINK |  |
| 11:00-<br>11:50 | Domeniu doctorat 2: Întâlnire online cu directorii/responsabilii centrelor/laboratoarelor de   |  | - Comisiile de evaluare domenii de doctorat  Doctoral domains evaluation panels  - directorii centrelor/ laboratoarelor de cercetare  directors of research centers/laboratories |
|                 | Matematică / Mathematics LINK  Ingineria sistemelor / Systems Engineering LINK Inginerie electronică, telecomunicații și tehnologii informaționale / Electronics engineering, telecommunications and information technologies LINK Ingineria materialelor / Materials Engineering LINK | Inginerie și management / Engineering and Management LINK Filologie / Philology LINK  Știința sportului și educației fizice / Sports Science and Physical Education LINK         |  |



| 12:00 –<br>13:50 | Întâlnire online cu membrii Consiliului Studiilor Universitare de Doctorat al IOSUD și membrii Consiliului școlii (CSD) în cadrul cărora funcționează domeniile evaluate Online meeting with Doctoral University Studies Council (CSUD) and with members Doctoral School Council (CSD members)  Link întâlnire ZOOM (UTBV) / Meeting link ZOOM platform (by UTBV): LINK  |  | Comisiile de evaluare pentru IOSUD și domenii de doctorat IOSUD&doctoral domains evaluation panels -membrii CSUD și CSD CSUD's and CSD's members |
|------------------|--|--|--|
| 14:00-<br>14:50  | Domeniu doctorat 1: Întâlnire online a comisiei de evaluare cu reprezentanți ai angajatorilor absolvenților domeniului  Doctoral domain 1: Online meeting with employers of Doctoral graduates in the domain  Linkuri întâlniri ZOOM (UTBV) / Meeting links ZOOM platform (by UTBV):   |  | - Comisiile de evaluare domenii de doctorat  Doctoral domains evaluation panels  - reprezentanți ai angajatorilor                                |
|                  | Informatică / Informatics  Calculatoare și tehnologia informației / Computers and Information Technology LINK Inginerie electrică / Electrical Engineering LINK Inginerie forestieră / Forestry Engineering LINK Silvicultură / Forestry LINK  | Inginerie mecanică /  Mechanical Engineering LINK Inginerie industrială / Industrial Engineering LINK Medicină / Medicine LINK  Finanțe / Finance LINK  Marketing / Marketing LINK | employers' representatives   |
| 15:00-<br>15:50  | Domeniu doctorat 2: Întâlnire online a comisiei de evaluare cu reprezentanți ai angajatorilor absolvenților domeniului  Doctoral domain 2: Online meeting with employers of Doctoral graduates in the domain  Linkuri întâlniri ZOOM (UTBV) / Meeting links ZOOM platform (by UTBV):  Matematică / Mathematics LINK Inginerie și management / Engineering and Management LINK  Ingineria sistemelor / Filologie / Philology LINK  Systems Engineering LINK  Inginerie electronică, telecomunicații și Muzică / Music LINK  tehnologii informaționale / |  | - Comisiile de evaluare domenii de doctorat  Doctoral domains evaluation panels  - reprezentanți ai angajatorilor  employers' representatives    |



|                 | Electronics engineering, telecommunications and information technologies Ingineria materialelor / Sports Science and Physical Education LINK  Stiinţa sportului şi educaţiei fizice / Sports Science and Physical Education   |  |
|-----------------|---|--|
| 16:00-<br>16:50 | IOSUD: Întâlnire online a comisiei de evaluare cu <b>reprezentanți ai angajatorilor</b> absolvenților IOSUD: Online meeting with employers of doctoral graduates  | - Comisia de evaluare IOSUD<br>IOSUD evaluation panel  |
|                 | Link întâlnire ZOOM (UTBV) / Meeting link ZOOM platform (by UTBV): LINK   | - reprezentanți ai angajatorilor employers' representatives  |
| 16:00-<br>16:50 | <u>Domeniu doctorat 2:</u> Întâlnire online cu directorii/responsabilii centrelor/laboratoarelor de cercetare aferente domeniului de studii universitare de doctorat <u>Doctoral domain 2:</u> Online meeting with the Directors/ persons in charge of the research centers/laboratories within the doctoral study domain | - Comisia de evaluare pentru domeniul de doctorat Muzică<br>Music doctoral domain evaluation panel |
|                 | Muzică / <i>Music</i> Link întâlnire ZOOM (UTBV) / Meeting link ZOOM platform (by UTBV): LINK   | - directorii centrelor/ laboratoarelor de cercetare directors of research centers/laboratories     |
|                 | Joi/ Thursday, 11.11.2021   |  |
| 09:00-<br>18:00 | Continuarea activităților de evaluare a domeniilor de studii universitare de doctorat și IOSUD (Se lucrează separat.)  Continuation of the doctoral study domain and IOSUD evaluation activities (Independent evaluation activities <sup>i</sup> )  | Comisiile de evaluare pentru IOSUD și domenii de doctorat IOSUD&doctoral domains evaluation panels |
|                 | Vineri/ <i>Friday</i> , 12.11.2021  |  |
| 09:00-<br>11:30 | Continuarea activităților de evaluare a domeniilor de studii universitare de doctorat și IOSUD (Se lucrează separat.)  Continuation of the doctoral study domain and IOSUD evaluation activities (Independent evaluation activities)  | Comisiile de evaluare pentru IOSUD și domenii de doctorat IOSUD&doctoral domains evaluation panels |



| 11:30-<br>12:50 | Întâlnire online pentru concluzii Online meeting for conclusions  Link întâlnire ZOOM (ARACIS) / Meeting link ZOOM platform (by ARACIS): LINK Aracis 43   | Comisiile de evaluare pentru IOSUD și domenii de doctorat IOSUD&doctoral domains evaluation panels  |
|-----------------|---|---|
| 13:00-<br>14:00 | Întâlnire finală online în vederea prezentării principalelor constatări rezultate în urma evaluării la nivel de domenii de doctorat și IOSUD și a recomandărilor de îmbunătățire a calității Meeting with representatives of the institution under review to discuss on the conclusions of the evaluation process and the main reccomandations  Link întâlnire ZOOM (UTBV) / Meeting link ZOOM platform (by UTBV): LINK | Comisiile de evaluare pentru IOSUD și domenii de doctorat IOSUD&doctoral domains evaluation panels  - reprezentanții universității university's representatives |

#### Notă:

- 1. Toate intâlnire în format on-line vor fi înregistrate audio-video. *All online meetings will be recorded audio and video.*
- 2. În perioada de evaluare, pot fi solicitate și alte întâlniri, pentru eventuale clarificări. During the evaluation visit, other meetings may be requested for possible clarifications.
- 3. Pentru toate întâlnirile din program unde se menționează domeniu, se vor organiza întâlniri în paralel pentru toate domenii de studii universitare de doctorat din componența IOSUD. For all the timetable meetings where the domain is mentioned, meetings will be organized in parallel for all the doctoral university studies domains within IOSUD.

Director de misiune,

Rector,

Prof. univ. dr. ing. Iordan PETRESCU

Prof. univ. dr. ing. Ioan Vasile ABRUDAN