

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 University of Oradea (UO) by Prof. Năvrăpescu Valentin (Universitatea Politehnica din București) as a coordinator, Prof. Danijel TOPIC (J.J. Strossmayer University of Osijek, Croatia) as the international expert, and Lupu Teodora (Universitatea Tehnică din Cluj-Napoca) as a student member was performed. The period of the evaluation was from 15<sup>th</sup> of the November by the 20<sup>th</sup> of November.

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

The University of oradea in 1990 by Decision of the Government of Romania (Annex I.1) was established. The University of Oradea is a higher education institution accredited to organize doctoral studies in 18 doctoral fields, organized in 7 Doctoral Schools, both in the form of full-time education and in the part-time form.

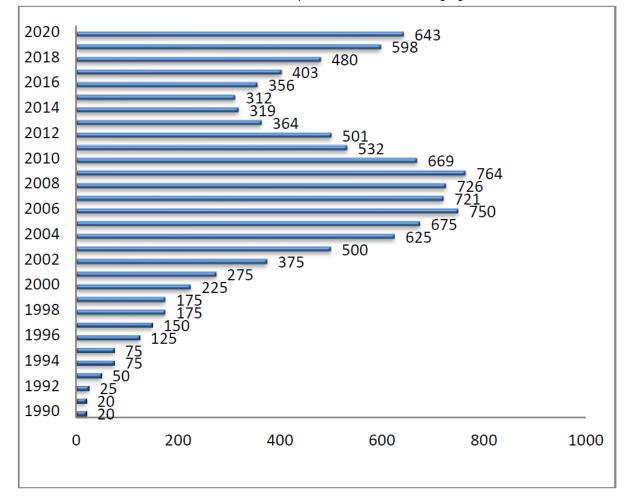
Doctoral study programs operate in accordance with national legislation and meet the quality criteria imposed by national regulations. Details regarding the organization of doctoral university studies can be viewed by accessing the page https://doctorat.uoradea.ro/ro/, and the related statistical situations are presented in this Annual Report of the director of the C.S.U.D., for the year 2020.

Currently, within the University of Oradea there are 7 Doctoral Schools within the structure of the faculties that manage the 18 doctoral fields, as follows:

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

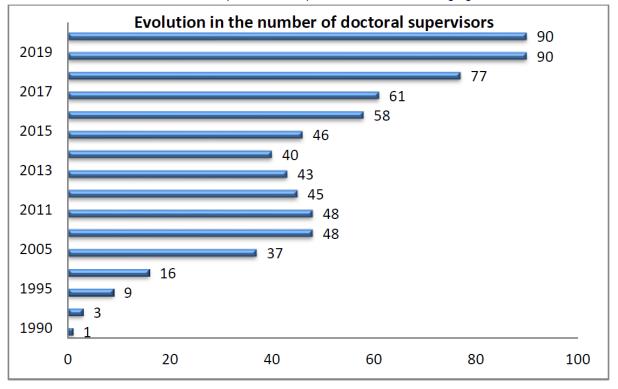


- The Doctoral School of Humanities and Arts doctoral fields Philology and Theology, within the Faculty of Letters;
- The Doctoral School of Geography PhD field Geography, within the Faculty of Geography, Tourism and Sports;
- The Doctoral School of History the doctoral field of History, within the Faculty of History, International Relations, Political Sciences and Communication Sciences;
- The Doctoral School of Sociology doctoral field of Sociology, within the Faculty of Socio-Human Sciences;
- The Doctoral School of Biomedical Sciences doctoral fields of Biology, Pharmacy and Medicine, within the Faculty of Medicine and Pharmacy;
- The Doctoral School of Economic Sciences Doctoral fields Business Administration, Economics and Finance, within the Faculty of Economic Sciences;
- The Doctoral School of Engineering Sciences, in the doctorate fields of Agronomy, Electrical Engineering, Electronic Engineering, Telecommunications and Informational Technologies, Energetic Engineering, Industrial Engineering, Engineering and Management in Mathematics, within the Faculty of Managerial and Technological Engineering.



Evolution in the number of doctoral students are presented in the following figure:





Evolution in the number of doctoral supervisors are presented in the following figure:

The doctoral field ELECTRICAL ENGINEERING was established starting with 1994 in the same time with the approval of technical sciences doctoral studies (OM 5363/1994) The following doctoral supervisors have been active over time:

- Prof.univ.dr.ing. Teodor MAGHIAR (OMI 34396/29.06.1990-decesed);
- Prof.univ.dr.ing. Teodor LEUCA (OM 3356/14.02.1997 pensioner, associate);
- Prof.univ.dr.ing. Florin POPENŢIU-VLĂDICESCU (OM 3335/08.03.2000-Transferred to Academia Tehnică Militară "Ferdinand I" Bucureşti – Doctoral School of Engineering Sciences (Decision no. 08/20.07.2020, Annex 24);
- Prof.univ.dr.habil. Francisc Ioan HATHAZI (OMEN nr. 4129/21.06.2017- tenured);
- Prof.univ.dr.habil. Ioan Mircea GORDAN (OMEN nr. 5756/27.12.2017 tenured).

Currently (2020-2021), at the Doctoral School of Engineering Sciences, Doctoral field of Electrical Engineering there are enrolled a number of 8 PhD students. Between 2016-2020, a number of 4 doctoral students have publicly defended their doctoral thesis, and obtained the scientific title of doctor in Electrical Engineering, being confirmed by CNATDCU.

#### 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 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;

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:



At the level of IOSUD-University of Oradea there are specific regulations for the organization and development of doctoral studies, these being developed in accordance with the provisions of national legislation and are applied at both the level of IOSUD and of the doctoral schools.

The internal regulations that underlie the organization and development of activities within the doctoral studies are:

- Regulations for the organization and conduct of the doctoral and postdoctoral studies (Appendix II.A.1), the variant in force at the time of the evaluation was approved by the Senate Decision no. 27 of 28.01.2021 ((<u>https://www.uoradea.ro/display22980</u>)
- The regulation for the organization and development of doctoral studies at the level of the Doctoral School of Engineering Sciences was adopted by CSUD Decision and is available for consultation on the website of the Doctoral School (<u>https://doctorat.uoradea.ro/ro/organizare</u>), Appendix II.A.1
- The methodology of organizing the elections and appointing the members of the Council and the director of the Doctoral School from I.O.S.U.D. - The University of Oradea, in force at the date of the internal evaluation, was adopted by the Decision of the University Senate number 11 of 26.10.2020 Appendix 13, being available for consultation on the IOSUD website (<u>https://www.uoradea.ro/display12788</u>). The documents proving the conduct of the elections of the Doctoral Schools Councils and the elections (Appendix II.A.3)
- The methodology for organizing and conducting the competition for admission to doctoral studies at the level of IOSUD\_UO, in force at the time of the internal evaluation, was adopted by the Decision of the University Senate number 16 of 25.03.2021, being available for consultation on the website of IOSUD (<u>https://cloud.uoradea.ro/index.php/s/FKi3fGrjijPBJ4z#pdfviewer</u>), Appendix II.A.4
- The operational procedure regarding the recognition of the doctoral degree and the doctoral degree in sciences or in a professional field, obtained abroad, in force at the date of the internal evaluation, was adopted by the Decision of the University Senate number 19 of 27.03.2017, being available for consultation on the IOSUD website (https://cloud.uoradea.ro/index.php/s/MbbwBdeJa2f95YX), Appendix II.A.7
- Regarding the organization of meetings at the level of the Doctoral School of Engineering Sciences, they are held as many times as necessary, but at least three times a year. The supporting documents are presented in **Appendix II.A.9.1**.
- The Doctoral Studies Contract is Annex 1 to ROFSUD (<u>https://cloud.uoradea.ro/index.php/s/kmSFRYqdyyXgp53#pdfviewer</u>), for example, a model is presented in Appendix II.A.10.
- Internal procedures for the analysis and approval of proposals on the topic of doctoral university study programs.

The following internal regulations are also operational at the level of IOSUD, University of Oradea:

• Framework regulation for granting scholarships and other forms of material support for students of the University of Oradea



- Methodology regarding the exemption from the payment of the fee for the defense of the habilitation thesis, respectively for the settlement of the expenses occasioned by the defense of the habilitation thesis
- Regulation regarding the filling of university assistant positions for a determined period
- Regulation on the organization and conduct of the process for obtaining the certificate of qualification at the I.O.S.U.D. University of Oradea
- Methodology regarding the granting of doctoral scholarships at I.O.S.U.D. University of Oradea

**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 University of Oradea (681/2011 The regulation) establishes mandatory criteria, procedures and standards regarding the following aspects:

- the acceptance of new doctoral supervising members, as well as regulations regarding the way in which a doctoral supervisor can be withdrawn as a member of the doctoral school are regulated in the *Regulation on granting and revoking the membership of Doctoral Schools*, approved by Decision Senate 33 of 26.03.2018
- the mechanisms whereby decisions are made regarding the appropriateness, structure and content of the training program based on advanced university studies are provided in paragraph 3.2.3 (art. 31 and art. 32, respectively) of the *Regulation on the organization and conduct of university studies. doctorate and postdoctoral programs*
- the procedures for changing the doctoral supervisor of a certain doctoral student and the procedures for mediating conflicts are regulated in art. 34 paragraph 2, art. 38 and respectively art. 27 of the *Regulation on the organization and development of doctoral studies and postdoctoral programs*
- the conditions under which the doctoral program can be interrupted are regulated in paragraph 3.1.1. Duration of the cycle of doctoral university studies, art. 24 of the *Regulation on the organization and conduct of doctoral studies and postdoctoral programs*
- the ways to prevent fraud in scientific research, including plagiarism are regulated in the Code of Ethics and University Ethics of the University of Oradea (<u>https://www.uoradea.ro/display1436-Appendix II.A.17</u>.) and the sanctions in case of non-compliance with the quality or professional ethics standards are provided in art. 77 of the Regulation on the organization and development of doctoral studies and postdoctoral programs
- ensuring access to research resources are regulated in art. 68 of the Regulation on the organization and development of doctoral studies and postdoctoral programs and respectively art. 6.1 Obligations of IOSUD UO from the Contract for Doctoral Studies Annex 1 to the



Regulation on the organization and conduct of doctoral studies and postdoctoral programs

• the attendance obligations of the doctoral students, according to a methodology elaborated by the Ministry of National Education, are established at the level of each Doctoral School.

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.

Doctoral students enrolled at IOSUD\_UO in the form of education without tuition fee are funded from the budget for the maximum duration of a doctoral study cycle (3-4 years), and the university has mechanisms to check this condition (UNIWEB Platform).

The results obtained by the doctoral student during schooling period are registered in the individual training program (<u>https://cloud.uoradea.ro/index.php/s/czJjqjTiM6k5Zjo - Annex II.A.18</u>) and in the Matriculation Register.

At the level of the University and IOSUD UO there is also implemented (the interface for students is available at https://studinfo.uoradea.ro/), the Uniweb platform (https://uniweb.uoradea.ro/) which provides the module management, monitoring and computerization of students, including doctoral students. The data from the applicants' files for admission are entered in this program and following the selection process, the admitted candidates are registered with IOSUD UO. This program has a module where you can generate statistical reports of doctoral students, as well as a module of fees where the situation of fees for doctoral students is presented.

The Unweb application is the integrated application for managing the activity carried out within the doctoral studies, offering all the information through the web interface independent of the operating system. The security of the platform has as a key element the access through the user and the password, the password having a limited validity term. At the same time, an element of security is the organization on user levels created on the platform, so that each user has access only to the resources he/she needs, thus being implemented and editing limitations, thus reducing the possibility of database corruption.

**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.

IOSUD The University of Oradea uses, on the basis of a contract, the anti-plagiarism system provided by SC SISTEM ANTIPLAGIAT PRIN INTERNET SRL through the online platform <u>https://www.sistemantiplagiat.ro</u> (**Appendix II.A.19**.).

The system for detecting similarities, made available to doctoral schools within IOSUD University of Oradea, is included in the MENCS Order no. 3485/2016 - the list of programs recognized by CNATDCU and used at the level of higher education institutions organizing doctoral university studies and of the Romanian Academy, in order to establish the degree of similarity

According to the provisions of the Operational Procedure regarding the evaluation of doctoral students (https://www.uoradea.ro/display17187), art.8.2.3.18., each doctoral thesis to be defended publicly will be accompanied by both the Ant plagiarism Report generated by the Sistemantiplagiat software .ro as well as the Resolution of the doctoral supervisor on the similarity report (**Appendix 13** of the OP), the opinion of the doctoral school on the anti-plagiarism verification (**Appendix 12** of the OP) and the Declaration of authenticity of the doctoral thesis (**Appendix 18** of the OP), assumed by the doctoral student and the scientific coordinator.

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.

\*general description of the standard analysis.

**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.



| No.      | Grant                   | Director/Responsible<br>person | Period      | Link                       |
|----------|-------------------------|--------------------------------|-------------|----------------------------|
| Research | h grants                | •                              | 1           |                            |
| 1.       | 1. Project 55           | Bandici Livia                  | 2017 - 2018 | http://www.indsys.ro/      |
|          | CI_PN_3_P_2-711 /       |                                |             |                            |
|          | 2017 - Design of an     |                                |             |                            |
|          | inductive               |                                |             |                            |
|          | electrothermal          |                                |             |                            |
|          | system used in the      |                                |             |                            |
|          | process of surface      |                                |             |                            |
|          | hardening of some       |                                |             |                            |
|          | metal parts.            |                                |             |                            |
| 2.       | Project_PN-II-PT-       | Bandici Gheorghe               | 2014 - 2017 | http://www.wine-tech.ro/   |
|          | PCCA-2013-4-2225/       |                                |             |                            |
|          | 170 of 01/07/2014 -     |                                |             |                            |
|          | Electromagnetic         |                                |             |                            |
|          | methods for the         |                                |             |                            |
|          | improvement of          |                                |             |                            |
|          | wine-producing          |                                |             |                            |
|          | processes, 2014-        |                                |             |                            |
|          | 2017, 1.242.800 lei .   |                                |             |                            |
|          | onal development grants |                                | 1           |                            |
| 1.       | POS CCE - Contract      | Hathazi Francise – Ioan        | 2014 - 2016 | http://www.ccdelite.ro/ro/ |
|          | no.664 / 14.08.2014     |                                |             |                            |
|          | - Increasing the        |                                |             |                            |
|          | capacity for research   |                                |             |                            |
|          | - development of        |                                |             |                            |
|          | interdisciplinary       |                                |             |                            |
|          | laboratories for        |                                |             |                            |
|          | technologies in         |                                |             |                            |
|          | electrical              |                                |             |                            |
|          | engineering –           |                                |             |                            |
|          | CCDELITE                |                                |             |                            |

**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 fulfilled.

Within the Doctoral School of Electrical Engineering domain (on the date of preparation of the Internal Evaluation Report), 8 PhD students were at different stages of their doctoral training. The number of PhD students who have benefited from other sources of funding, for a period of at least six months, is 3, which is 37,5%.

Doctoral students who have benefited / benefit from other sources of funding in the following table are presented:



| No.<br>crt. | Doctoral student                  | Year of enrolment | Type of funding<br>source *                              | Grant period                    |
|-------------|-----------------------------------|-------------------|--|---------------------------------|
| 2015        | -2016 0                           |                   |  |                                 |
| 1.          |                                   |                   |  |                                 |
| 2016        | -2017 1                           |                   |  |                                 |
| 1.          | Giurgiu Constantin                | 03.10.2016        | Scholarship from the<br>Oradea University's<br>own funds | October 2016-<br>September 2017 |
| 2017        | -2018 1                           |                   |  |                                 |
| 1.          | Hera (Codrean)<br>Mihaela         | 02.10.2017        | Scholarship from the<br>Oradea University's<br>own funds | October 2017-<br>September 2018 |
| 2018        | -2019 0                           |                   |  |                                 |
| 1.          |                                   |                   |  |                                 |
| 2019        | -2020                             |                   |  |                                 |
| 1.          | Copil Fl. Laurențiu<br>– Florinel | 02.10.2017        | Scholarship from the<br>Oradea University's<br>own funds | October 2019-<br>September 2020 |

**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 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.

<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.



| Academic<br>year | No. of<br>budgeted<br>students | No. of<br>fee-<br>paying<br>students | Total<br>no. of<br>students | Doctoral<br>grant<br>value | Tuition<br>fee | Budget<br>revenues | Fee<br>revenues | Total   |
|------------------|--------------------------------|--------------------------------------|-----------------------------|----------------------------|----------------|--------------------|-----------------|---------|
| 2015 -<br>2016   | 5                              | 3                                    | 8                           | 77.331                     | 3.900          | 128.885            | 11.700          | 140.585 |
| 2016 -<br>2017   | 3                              | 2                                    | 5                           | 177.100                    | 3.900          | 75.900             | 7.800           | 83.700  |
| 2017 -<br>2018   | 3                              | 3                                    | 6                           | 75.900                     | 3.900          | 75.900             | 11.700          | 87.600  |
| 2018 -<br>2019   | 4                              | 4                                    | 8                           | 75.900                     | 4.500          | 101.200            | 18.000          | 119.200 |
| 2019 -<br>2020   | 3                              | 6                                    | 9                           | 29.000                     | 4.500          | 87.000             | 27.000          | 114.000 |
|                  |                                |                                      | 468.885                     | 76.200                     | 545.085        |                    |                 |         |

During the evaluated period, in relation to the doctoral field of Electrical Engineering, the total amounts settled with the professional training expenses of the doctoral students amount to RON 18,600, i.ee 3.41% of the total income on the evaluated doctoral field.

| No. | Doctoral student        | Year in<br>which they<br>received<br>support | The nature of the benefit received | Value             | Supporting<br>document  |
|-----|-------------------------|--|------------------------------------|-------------------|-------------------------|
| 1.  | GIURGIU N. NICU         | October                                      | Scholarship from OU's              | $450 \times 12 =$ | PV                      |
|     | CONSTANTIN              | 2016 –<br>September<br>2017                  | own revenues                       | 5.400             | scholarship<br>granting |
| 2.  | HERA (CODREAN)          | October                                      | Scholarship from OU's              | 550 x 12 =        | PV                      |
|     | I. MIHAELA              | 2017 –<br>September<br>2018                  | own revenues                       | 6.600             | scholarship<br>granting |
| 3.  | COPIL F1.               | October                                      | Scholarship from OU's              | $550 \times 12 =$ | PV                      |
|     | LAURENȚIU –<br>FLORINEL | 2019 –<br>September<br>2020                  | own revenues                       | 6.600             | scholarship<br>granting |

In the chapter of professional training expenses of doctoral students were included the amounts spent by the university for the hourly payment of the guidance commissions, as well as the expenses made by the university for the development of entrepreneurial skills of doctoral students. they, as presented in **Appendix II.A.22.a**, so the percentage of doctoral students' training expenses out of the total budget revenues and fees is over 10%.

#### 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 spaces and the material endowment assigned to the doctoral field of Electrical Engineering allow the accomplishment of the research activities, in the evaluated field, in accordance with the mission and the assumed objectives. Research laboratories in the field of Electrical Engineering in the following table are presented:

| No. | Name of the laboratory  | Coordinator                                     | Doctoral<br>field*        |
|-----|---|---|---------------------------|
| 1.  | Laboratory for Research on Electrical Equipment<br>foe Ventilation Systems and Refrigeration<br>Technique (LCAVF) | prof.PhD.eng.habil.<br>Ioan – Mircea GORDAN     | Electrical<br>Engineering |
| 2.  | Research Laboratory: Electrical Measurements<br>and Data Acquisition Systems (LMESIA)                             | prof.PhD.eng.habil.<br>Ioan – Mircea GORDAN     | Electrical<br>Engineering |
| 3.  | Research Laboratory: The Conversion of electromagnetic energy   | prof.PhD.eng.<br>Teodor LEUCA                   | Electrical<br>Engineering |
| 4.  | Research Laboratory: Superconductors and Superconducting Systems  | prof.PhD.eng.habil.<br>Francisc – Ioan HATHAZI  | Electrical<br>Engineering |
| 5.  | Laboratory for Research on Microwave<br>Technologies and Innovative Processes<br>(LCTM)                           | prof.PhD. eng.habil.<br>Francisc – Ioan HATHAZI | Electrical<br>Engineering |

List of existing research laboratories at the level of doctoral field Electrical Engineering posted on the ERRIS platform Appendix II.A.21. are:

- Interdisciplinary Research Platform for Technologies in Electrical Engineering
   – CCDELITE Building C57, rooms a, b, c, d.
- Center for Research and Engineering Technology in the Conversion of Electromagnetic Energy – CCITCEE – CCITCEE – building T, room 006 a, b, c, d, e, f, g, h.

At the level of the Faculty of Electrical Engineering and Information Technology that manages the doctoral field of Electrical Engineering there are three internally certified research centres, one of these centres serves the field of Electrical Engineering (<u>https://ieti.uoradea.ro/ro/cercetare/centre-de-cercetare</u>).

| Faculty  | Name of the<br>Research Centre   | Director of the<br>Research Centre             | Documents<br>regarding the<br>setting of the<br>research centre       | Link   |
|--|--|--|---|--|
| Electrical<br>Engineering<br>and Information<br>Technology | Research and<br>technological<br>engineering centre in<br>electromagnetic energy<br>conversion | Associate prof.<br>Ph.D. eng. Livia<br>Bandici | HS UO no. 10564 /<br>29.07.2004<br>Certificate no.776 /<br>17.01.2008 | <u>https://ieti.uora</u><br><u>dea.ro/ro/cerce</u><br><u>tare/centre-de-</u><br><u>cercetare</u> |



#### 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.

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

Supervisors:

- prof.PhD.eng. Teodor MAGHIAR (IMO 34396 / 29.06.1990 deceased);
- prof.PhD.eng. Teodor LEUCA (OM 3356 / 14.02.1997 retired, associate);
- prof.PhD.eng. Florin POPENŢIU-VLĂDICESCU (OM 3335 / 08.03.2000 Transferred to the Military Technical Academy "Ferdinand I" from Bucharest - Doctoral School in the fundamental field of Engineering Sciences in accordance with Decision no. 08 / 20.07.2020);
- prof.PhD.eng. habil. Francisc Ioan HATHAZI (OMEN no. 4129 / 21.06.2017 holder)
- prof.PhD.eng. habil. loan Mircea GORDAN (OMEN no. 5756 / 27.12.2017 holder)

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



| No. | Surname and name   | M.O<br>whereby the<br>quality of<br>doctoral<br>supervisor<br>has been<br>confirmed<br>Doctoral fie | Holder<br>/<br>associa<br>te /<br>affiliat<br>ed<br>ld: Electr | No.<br>Doctora<br>l<br>student<br>s being<br>supervi<br>sed on<br>01.10.20<br>20<br>ical Engine | CV and<br>List of<br>Publicatio<br>ns | Fulfil<br>ment<br>of<br>criteri<br>a | List of<br>minimal<br>CNATDCU<br>standards<br>in force |
|-----|--|---|--|---|---------------------------------------|--------------------------------------|--|
| 1.  | prof.PhD.eng.habil.<br>Ioan – Mircea<br>GORDAN                 | <u>OMEN nr.</u><br><u>5756/27.12.20</u><br><u>17</u>  | Holder /<br>affiliate<br>d                                     | 0   | Appendix                              | YES                                  | <u>Appendix</u>  |
| 2.  | Associate<br>prof.PhD.eng.habil.<br>Francisc – Ioan<br>HATHAZI | <u>OMEN</u><br><u>nr.4129 /</u><br>21.06.2017   | <u>Holder /</u><br>affiliate<br>d                              | 5   | Appendix                              | YES                                  | <u>Appendix</u>  |
| 3.  | Prof.PhD.eng.<br>Teodor LEUCA                                  | <u>OMI</u><br><u>nr.3356/14.02.</u><br><u>1997</u>  | Associa<br>ted /<br>affiliate                                  | 3   | Appendix                              | YES                                  | <u>Appendix</u>  |

**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 fulfilled.

According to data in the self-evaluation report shown in the table: *Information on the situation of doctoral supervisors within the evaluated doctoral field*, a number of 2 doctoral supervisors are holders out of a total number of 3 doctoral supervisors, which means a percentage of 66, 66%.

Appendix II.A.27 presents the certificates signed by the IOSUD leader for tenured doctoral supervisors are presented.

**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



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.

| No. | Surname<br>and name<br>of the<br>professor/r<br>esearcher | Teaching degree*             | Subject matter<br>taught                                  | CV   |
|-----|---|------------------------------|---|--|
| 1.  | LEUCA<br>Teodor   | Prof. PhD. eng.              | Special issues of<br>electrical<br>engineering            | https://ieti.uoradea.ro/images/De<br>partamente/depIE/CV-uri-<br>IE/Teodor_LEUCA.pdf                 |
| 2.  | GORDAN<br>Ioan –<br>Mircea                                | Prof PhD.<br>enghabil        | Systems for data<br>acquisition and<br>processing         | https://ieti.uoradea.ro/images/De<br>partamente/depIE/CV-uri-<br>IE/Mircea_GORDAN.pdf                |
| 3.  | SILAGHI<br>Helga  | Prof PhD. eng.               | Advanced electric<br>drives                               | https://ieti.uoradea.ro/images/De<br>partamente/depISAM/CV-uri-<br>ISAM/Helga_SILAGHI.pdf            |
| 4.  | SILAGHI<br>Alexandru<br>Marius                            | Prof PhD. eng.               | Energy quality<br>and<br>electromagnetic<br>compatibility | https://ieti.uoradea.ro/images/De<br>partamente/depIE/CV-uri-<br>IE/Alexandru_Marius_SILAGH<br>I.pdf |
| 5.  | POPOVICI<br>Ovidiu  | Prof PhD. eng.               | Synthesis of<br>electrical<br>equipment and<br>systems    | https://ieti.uoradea.ro/images/De<br>partamente/depIE/CV-uri-<br>IE/Ovidiu_POPOVICI.pdf              |
| 6.  | POPA<br>Monica  | Assocciate Prof<br>PhD. eng. | Computerized<br>electrical<br>equipment                   | https://ieti.uoradea.ro/images/De<br>partamente/depIE/CV-uri-<br>IE/Monica_POPA.pdf                  |
| 7.  | ŞOPRONI<br>Vasile –<br>Darie                              | Associate Prof PhD.<br>eng.  | Electroecological sources                                 | https://ieti.uoradea.ro/images/De<br>partamente/depIE/CV-uri-<br>IE/Vasile_Darie_SOPRONI.pdf         |
| 8.  | TOMŞE<br>Marin  | Assistant Prof PhD.<br>eng   | Systems for<br>energy conversion<br>and use               | https://ieti.uoradea.ro/images/De<br>partamente/depETc/CV-uri-<br>ETc/Marin_TOMSE.pdf                |

**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

<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.



None of the PhD supervisors in the Electrical Engineering Field exceeded 8 PhD students registered at the same time. Data are presented in **Self-evaluation report.** 

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 professional associations; guests in conferences or expert groups working abroad, or membership on doctoral defense commissions at universities abroad or co-leading with universities abroad. 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.

- 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.

**Appendix II.A.29** presents in a centralized manner "The international visibility of doctoral supervisors" - which operates in the field of doctorate in Electrical Engineering. Within the evaluated doctoral field, 3 doctoral supervisors out of a total of 3 supervisors prove five indexed publications Web of Science or ERIH and 3 doctoral supervisors out of a total of 3 supervisors prove at least 2 mentions that highlight the international visibility of which they enjoy, through the elements specified in the second part of this indicator.

**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



According to the data presented in the self-evaluation report, out of a total of 3 PhD supervisors affiliated at the time of evaluation, 3 PhD supervisors (100%) 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.

| No.<br>crt. | Surname and Name        | Score<br>achieved in<br>the period<br>2016-2020 | Minum<br>um<br>score | Score<br>achieve<br>d | The proof of reaching<br>at least 25% of the<br>required score<br>required by the<br>current CNATDCU<br>minimum standards,<br>in force at the date of<br>the evaluation |
|-------------|-------------------------|---|----------------------|-----------------------|---|
|             | Doctoral                | field: Electric                                 | al Enginee:          | ring                  |   |
| 1.          | Ioan – Mircea GORDAN    | 340,28  | 600                  | 56,71%                | Yes – <u>Appendix II.A.28</u>   |
| 2.          | Teodor LEUCA            | 302,24  | 600                  | 50,37%                | Yes – <u>Appendix II.A.28</u>   |
| 3.          | Francisc – Ioan HATHAZI | 467,39  | 600                  | 77,89%                | Yes – <u>Appendix II.A.28</u>   |

## 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 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 not fulfilled.

For the field of Electrical Engineering, the statistical data for the 2015-2019 period are given in the following table:



| Academic year/<br>No. grants/<br>Candidates  | 2015-<br>2016 | 2016-<br>2017 | 2017-<br>2018 | 2018-<br>2019 | 2019-<br>2020 |
|--|---------------|---------------|---------------|---------------|---------------|
| No. of doctoral grants   | 1             | 1             | 1             | 2             | 1             |
| No candidates registered for the admission competition, of which:  | 1             | 1             | 2             | 4             | 2             |
| - graduates of master's degree programs completed outside IOSUD  | 0             | 0             | 0             | 0             | 0             |
| - graduates of master's degree programs completed at IOSUD   | 1             | 1             | 2             | 3             | 2             |
| No. of candidates declared admitted  | 1             | 1             | 2             | 3             | 2             |
| <b>Ratio</b> of the number of master's degree graduates of<br>other higher education institutions in the country or<br>abroad who have registered for the competition for<br>admission to doctoral studies and the number of places<br>financed from the state budget put up for competition | 0             | 0             | 0             | 0             | 0             |

For the Electrical Engineering field of study the ratio indicates the number of graduates at master level of other higher education institutions in the country or abroad who have registered for the competition for admission to doctoral studies and the number of places financed from the state budget put up for competition at the admissions 2015- 2019 for the evaluated doctoral field is 0/6 = 0.

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.

In accordance with the Methodology for organizing and conducting the competition for admission to doctoral studies at the level of the Doctoral School of Engineering Sciences (**Appendix II.A.4.**), Admission to doctoral study programs is based on selection criteria that include:

- Criterion 1 Previous professional performance of the candidates (articles, studies mentioned in the CV) (c1% of the evaluation) - 30%;
- Criterion 2 The level of the proposed doctoral research project (PCD), evaluated in relation to:
  - C2.1 Scientific context and motivation of the chosen topic (c2.1%) 15%;
  - C2.2 Defining the objectives of scientific research (c2.2%) 15%;
  - o C2.3 Research methodology (c2.3%) 10%
  - C2.4 Estimated results (c2.4%) 10%;



• **Criterion 3** - How the project was presented and the candidate's answers to the questions asked by the committee (20%).

Following the admission colloquium, each member present of the commission will give each candidate a grade (an integer, between 1 and 10) for each evaluation criterion.

The average given by each member of the commission is obtained as a weighted arithmetic average of the marks awarded for each evaluation criterion. The candidate's admission average is the arithmetic average of the averages resulting from the marks awarded by each member of the competition committee.

Following the admission colloquium, each member present of the commission will give each candidate a grade (an integer, between 1 and 10) for each evaluation criterion.

The average given by each member of the commission is obtained as a weighted arithmetic average of the marks awarded for each evaluation criterion. The candidate's admission average is the arithmetic average of the competition committee.

**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 in the academic year | 3 years from admission –(Academic  | Abandonment rate |
|--------------------------------|------------------------------------|------------------|
| /No of doctoral students on    | year) /No. of doctoral students on |                  |
| October 1st                    | October 1st                        |                  |
| 2015-2016                      | 2018-2019                          | 1 /1             |
| 1                              | 0                                  | 1/1              |
| 2016-2017                      | 2019-2020                          | 0                |
| 1                              | 1                                  | 0                |
| 2017-2018                      | 2020-2021                          | 0                |
| 2                              | 2                                  | U                |
| 4                              | 3                                  |                  |

The average of abandonment rates during the evaluated period is 1/4 – as percentage 0.25, a rate that is not above the value of 0.3 - 30%. (25%).

#### Criterion B.2. The content of doctoral programs

\*general description of the criterion analysis.

<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.



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.

**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 advanced university training program includes disciplines of scientific research methodology, ethics and academic integrity, but also relevant disciplines for training in scientific research in the evaluated doctoral field. Starting with the academic year 2018-2019, the Curriculum (**Appendix II.B.1**) was revised and updated in accordance with OMEN 3131 / 30.01 .2018, respectively (HS nr.32/19.02.2018-Anexa 13), introducing as a separate discipline (Ethics and academic integrity) in the field of Engineering Sciences.

The curriculum includes at least two components dedicated to some of the transversal competences, including aspects related to research ethics, scientometry and academic writing. The Subject Presentation Documents included in the curriculum are presented in **Appendix II.B.2**.

The advanced university training program includes subjects relevant to the scientific research training in the field of doctorate in Electrical Engineering, namely: Special issues of electrical engineering, Data acquisition and processing systems, Advanced electrical drives, Energy quality and electromagnetic compatibility, Synthesis of electrical equipment and systems, Computerized electrical equipment, Electroecological sources, Systems for energy conversion and use. These subjects are relevant for the training in scientific research of doctoral students. (Appendix II.B.2)

**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

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

Recommendations: The indicator is fulfilled.

In the evaluated doctoral field, the subject: Ethics and academic integrity in the field of Engineering Sciences has been included in the curriculum of the doctoral field (**Appendix II.B.1.**).



**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 curriculum for the doctoral field of Electrical Engineering has formulated the competencies that are to be ensured through the curriculum. They are divided into professional and transversal skills.

Subject descriptions for the compulsory subjects in the plan corresponding to the training program based on advanced university studies, namely: Advanced electrical drives, Energy quality and electromagnetic compatibility, Special issues of electrical engineering, Computerized electrical equipment, Synthesis of electrical system equipment, Systems for the Conversion and use of Energy, Data Acquisition Systems, are presented in **Appendix II.B.2**.

At the level of the University of Oradea there is the Operational Procedure regarding the evaluation and internal monitoring of the doctoral schools / doctoral fields within IOSUD\_UO (Appendix II.C.2.), whereby the following aspects are regulated:

- In paragraph 8.2.3.7. the modalities for evaluating the scientific activity of doctoral students within IOSUD-UO are specified, these taking place continuously, the doctoral supervisor evaluating the "learning outcomes" based on the way of inclusion in the individual work plan, during the doctoral internship, research reports or lectures given by them, published articles and their participation in conferences and research projects, respectively;
- In paragraph 8.2.3.8. references are made to the development, implementation, and use of feedback mechanisms by PhD students to identify their needs, as well as their level of satisfaction with the doctoral program in order to continuously improve the academic and administrative services provided;
- In paragraph 8.2.3.9 aspects related to the evaluation of the training program based on advanced university studies of doctoral students are regulated, along with references to the annual activity that is done on the following levels: at Doctoral School level, the curriculum of the doctoral field is analysed annually and can be proposed changes in the disciplines provided for both the development of professional skills and transversal skills of doctoral students and respectively on the second level - if following the feedback mechanism from doctoral students conclusions are drawn regarding the need for changes in both the training program based on advanced university studies (changes / adjustments to the subject sheets, etc.), as well as in the scientific research

<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.



program (proposals for improvements / adjustments) - these are discussed in the DSC and it proposes CSUD measures to improve the two programs.

**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.

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 Appendix II.B.4.

The activity of the doctoral supervisors and of the members of the guiding commissions is described and regulated in the Organizational Chart of the doctoral school or in the organizational charts of the university departments where the holders have the basic norm/activity.

According to the internal regulations of the OU, teachers can not cover more than three norms, there are statements on their own responsibility, which are submitted annually to the departments where they are holders of disciplines.

As relevant evidence for demonstrating the functionality of these guiding committees, in addition to the official meetings for the presentation of the planned research reports or the doctoral thesis within the supervision committee, for the doctoral field evaluated is presented in summary form in the table below, on the following category of evidence:

- 1. joint scientific publications or communications of the doctoral student with at least one of the members of the supervision committee,
- evidence of the existence of electronic correspondence focused on the feedback provided to doctoral students by the members of the commission or on the request for clarifying meetings from them (Appendix II.B.5);

**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



At the level of the doctoral field of Electrical Engineering as presented in the table (Information table regarding the situation of the members of the supervision commissions within the doctoral field of Electrical Engineering, year 2020-2021).

According to the information on the situation of the members of the supervision commissions within the doctoral field of Electrical Engineering, year 2020-2021, it results that the ratio between the number of doctoral students and the number of teachers / researchers who provide guidance is 8:24 = 0.33.

#### 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, within the doctoral domain of Electrical Engineering have been finalized 4 PhD thesis. Following 5 papers have been randomly selected:

- 1. **Current Aspects and Trends in the Numerical Modeling of Induction Heating Equipments**, 2018 10<sup>th</sup> International Conference on Electronics, Computers and Artificial Intelligence (ECAI), 2018, pp. 1-6, doi: 10.1109/ECAI.2018.8679046.
- Analyzing the Process of Tempering a Semifinished Product Using the FLUX2D and FEMM Software, 2019 15th International Conference on Engineering of Modern Electric Systems (EMES), 2019, pp. 229-232, doi: 10.1109/EMES.2019.8795169.
- 3. Heating of Nonlinear Ferromagnetic Bars, 2017 14th International Conference on Engineering of Modern Electric Systems (EMES), 2017, pp. 109-112, doi: 10.1109/EMES.2017.7980393.,
- 4. Decontamination, Drying and Sterilization Assisted by the High Frequency Electromagnetic Field for the Processing of Construction Waste Used on Driveways, 2019 15th International Conference on Engineering of Modern Electric Systems (EMES), 2019, pp. 89-92, doi: 10.1109/EMES.2019.8795092.
- 5. Neural Network Modeling of a Drying Process in Radio Frequency Field, 2019 15th International Conference on Engineering of Modern Electric Systems (EMES), 2019, pp. 193-196, doi: 10.1109/EMES.2019.8795090.



From the 5 selected papers, five are published on the international conferences indexed in the WoS (papers 1 to 3). Selected papers contain 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.

For the evaluated doctoral field, the table below presents, for each doctoral student who completed his/her doctoral studies in the evaluated period, the situation of their participation in prestigious international events.

| No. | Doctoral student   | Graduation<br>year    | Conference  | Link  |
|-----|--------------------|-----------------------|---|---|
| 1.  | CODREAN<br>MARIUS  | November<br>19th 2016 | <ul> <li>Heating of nonlinear ferromagnetic bars</li> <li>Teodor Leuca; Mihai Maricaru; Ioan Florea</li> <li>Hănțilă; George Marian Vasilescu; Marius</li> <li>Codrean; Livia Bandici; Adrian Burcă</li> <li>2017 14th International Conference on</li> <li>Engineering of Modern Electric Systems</li> <li>(EMES) Year: 2017 Pages: 225-228 IEEE</li> <li>Conferences WOS000414507000001</li> <li>Teodor Leuca, Mihai Maricaru, Ioan Florea</li> <li>Hănțilă, Marian Vasilescu, Marius</li> <li>Codrean, Livia Bandici, Adrian Burca -</li> <li>Heating of Nonlinear Ferromagnetic Bars.</li> <li>14th International Conference on</li> <li>Engineering of Modern Electric Systems</li> <li>(EMES) Oradea, Romania June 01-02,</li> <li>2017.</li> </ul> | http://revue.elth.pu<br>b.ro/upload/328195<br>01_MMaricaru_RR<br>ST_3_2017_pp_225<br>-228.pdf<br>http://apps.webofkn<br>owledge.com.am.e-<br>nformation.ro/full_<br>record.do?product<br>=WOS&search_mo<br>de=GeneralSearch<br>&qid=1&SID=E4F<br>fqTbcMvi3kU2yl3t<br>&page=1&doc=5/ |
| 2.  | SLOVAC<br>FRANCISC | November<br>19th 2016 | S. Coman, O. Coman, T. Leuca, M. Laza, F.<br>Slovac, - The Use of Experimental<br>Design in Order to Optimize the Heating<br>Parameters of Wood Material Inside a<br>Microwave Applicator. Experimental<br>Results, International Symposium of<br>Fundamentals of Electrical Engineering<br>2014, ISBN 978-1-4799-6820-6, IEEE,<br>Proceeding ISI, pp.1-4, 2014   |   |

The number of presentations, including posters and exhibitions, made at prestigious international events (held in the country or abroad) by doctoral students who completed their doctoral studies in the evaluated period (the last 5 years) is 16 and the number of PhD students who have completed their doctoral studies in the evaluated period (last five years) is 4. Thus, the ratio is 16/4 = 4, higher 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.

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.

**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.

Most of the presences in the thesis defense commissions are of prof. PhD. Ovidiu - Dan MICU, who was a member in 4 commissions but 2 in each different year, out of the total of 4 commissions set up in the evaluated period, which represents 0.10 and does not exceed the limit of 0.30.

As it results from the table presented in the previous indicator, within the doctoral field of Electrical Engineering, the ratio between the number of doctoral theses allocated to a certain scientific referent from another higher education institution than the one in which the doctoral thesis is organized and the number of doctoral theses defended in the same doctoral field within the doctoral school does not exceed the required threshold value of 0.3, by reference to the situation registered in the last five years.



# 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 fulfilled.

Within IOSUD - OU, procedures for monitoring internal quality assurance, as well as internal quality assurance policies have been developed and implemented in accordance with the following regulations:

- The Quality Assurance Code for the education and research processes at the University of Oradea (Annex II.C.1)
- System procedure regarding the monitoring of teaching activities (Annex II.C.2)
- Procedure for evaluating and ensuring the quality of teachers and study disciplines (Annex II.C.3)
- Procedure regarding the establishment, evaluation and ranking of research centres (Annex II.C.4)
- Procedure regarding the establishment and evaluation of teaching laboratories (Annex II.C.5)
- Program of quality policies, strategies and actions (Annex II.C.6)
- The operational procedure regarding the evaluation and internal monitoring of the doctoral schools / doctoral fields within IOSUD\_UO (Annex II.C.7)

These regulations covers following:

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

**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.

The Operational Procedure for the internal evaluation and monitoring of doctoral schools / doctoral fields within IOSUD\_UO provides that:

- PhD students will complete the Questionnaire on the level of satisfaction with the doctoral program (Appendix SEAQ\_PO\_CSUD\_05\_A.01), in each academic year, in the first quarter of the year;
- In the next period, the data collected from these questionnaires will be processed, so that the CSD, based on the information in these questionnaires, will present to the CSUD the conclusions and, as appropriate, the package of measures proposed to improve the doctoral program as a whole, as well as the academic and the administrative services provided.

PhD students are invited to express their satisfaction on a scale ranging from "very dissatisfied

- dissatisfied - neither satisfied, nor dissatisfied - satisfied - to very satisfied", in relation to the questions of the questionnaire presented in the table in Appendix II.C.8.

PhD students can also answer with "It's not the case" or "I don't know". The questionnaire is completed online by doctoral students, who access a platform provided.

The results of the "Satisfaction Report of PhD students from the Doctoral School of Electrical Engineering" for 2020 are presented in **Appendix II.C.9**.

These results are analysed within the Doctoral School Council (DSC), and the DSC will draw conclusions and, if necessary, will propose a package of measures to improve the doctoral program as a whole, respectively in order to continuously improve the academic and administrative services provided.



#### 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.

All the information regarding the completion of the doctoral program, starting with the admission and until obtaining the doctoral degree, are provided to the doctoral students both through the IOSUD secretariat department and by posting on the site, the related forms can be found at (<u>https://doctorat.uoradea.ro/ro/documente/formulare-utile</u>).

The Doctoral School, through IOSUD, publishes on the website of the organizing institution information about, in compliance with the general regulations on data protection:

- a) The doctoral school regulations (<u>https://cloud.uoradea.ro/index.php/s/B76iYc4NX7MbtPT#pdfviewer</u>);
- b) The rules of admission (<u>https://doctorat.uoradea.ro/ro/admitere/metodologie-admitere-doctorat-iosud-uo</u>);
- c) Doctoral study contract (<u>https://cloud.uoradea.ro/index.php/s/kmSFRYqdyyXgp53#pdfviewer</u>)
- d) The regulation for the completion of studies which should also include the procedure for the public presentation of the thesis.

(https://cloud.uoradea.ro/index.php/s/TrLZx6ZYKjejso5#pdfviewer) Appendix.II.C.10.;

e) Content of curricula (Education plan / Subject presentation Document) Appendix.II.B.1 .;



- f) The academic and scientific profile, thematic areas / research topics of the doctoral supervisors in the school, as well as the institutional contact details of these centralized situations - Appendix.II.C.11;
- g) List of doctoral students in the school with basic information (year of enrolment; doctoral supervisor) Appendix.II.C.12 .;
- h) Information on the standards for the elaboration of the doctoral thesis OM / Annex to the SUD contract / Training program and results Appendix.II.C.13 .; (<u>https://doctorat.uoradea.ro/ro/domenii-de-doctorat/inginerie-electrica/112-standarde-deelaborare-a-tezei-de-doctorat</u>);
- i) Links to abstracts of doctoral theses to be defended publicly, as well as the date, time, place where they will be defended, at least 20 days before the defense. Public support link (<u>https://doctorat.uoradea.ro/ro/sustineri-teze/sustineri-teze-doctorat</u>)

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 Engineering field for the entire reporting period. (Annex II.C.13).

Students can access the following databases: PROQUEST Central, ScienceDirect Freedom Collection, Scopus, Elsevier, de Gruyter ebooks, SpringerLink Journals, Springer, Web of Science - Core Collection, InCites Journal Citation Reports, Derwent Innovations Index, Clarivate Analytics.

**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.

Each doctoral student has access, upon request and with the consent of the doctoral supervisor, to an electronic system for checking the degree of similarity with other existing scientific or artistic creations.



As specified in criterion A.1.2.2. at the level of IOSUD, there is a person designated as the system administrator, who monitors the access to the platform, respectively the allocation of user accounts for each doctoral school. Based on an internal form, each doctoral school is assigned an account (username and password), which allows the verification of doctoral theses.

The theses are checked before the defense in front of the supervision commission. Based on the recommendations of the supervision committee regarding changes to the thesis and at the request of the supervisor the thesis can be re-verified before the public defense.

**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 doctoral students have access to the following IOSUD OU laboratories:

- The Microwave Technologies Laboratory
- The Electroecological Sources Laboratory
- The Modelling and Simulation Laboratory
- The Inductive Heating Laboratory

Recently, for a better communication with doctoral students, the existing Moodle, Microsoft Teams platforms at the IOSUD UO level are used.

#### **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.

At the level of the doctorate field in Electrical Engineering, there are framework agreements for the mobility of PhD students. As shown in the table below, most PhD students work in companies carrying out professional activities in the field of electrical engineering. At the level of the University of Oradea, the following agreements have been signed:

#### https://www.uoradea.ro/Erasmus+Plus+-+Mobilit%C4%83%C8%9Bi+-+Acorduri

Table of Erasmus + Mobility Agreements valid in the univ. 2020/2021 which also provide for cycle III exchanges (doctoral studies)

| No. | Partner University                    | Number of  | Duration | Comments (field)       |
|-----|---------------------------------------|------------|----------|------------------------|
|     |                                       | mobilities |          |                        |
|     |                                       | provided   |          |                        |
| 1.  | Insa Lyon                             | 5          | 25       | Electrcial engineering |
| 2.  | Universita degli Studi di<br>Cagliari | 1          | 5        | Electrcial engineering |
| 3.  | University of Coimbra                 | 2          | 18       | Electrcial engineering |
| 4.  | Technical University of<br>Kosice     | 4          | 20       | Electrcial engineering |
| 5.  | Trakia University                     | 2          | 18       | Energy                 |

**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 not fulfilled.

During the analyzed period, no doctorates in international co-supervision were organized within the Doctoral Field of Electrical Engineering.

**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.

During the IOSUD evaluation period, the University of Oradea participated through its legal representatives in the following educational fairs to attract international doctoral students:

| No. | Period                     | Location                  | Event name   | Details   |
|-----|----------------------------|---------------------------|--|---|
| 1   | 12-15<br>September<br>2017 | Seville,<br>Spain         | European Association for<br>International Education –<br>EAIE Annual Conference<br>and Exhibition                  | Participation with its own stand<br>under the auspices of the National<br>Council of Rectors - CNR, within a<br>Romanian pavilion "Study in<br>Romania" |
| 2   | 19, 20 May<br>2018         | Tokyo,<br>Osaka,<br>Japan | European Higher Education<br>Fair (EHEF)   | Participation with its own stand<br>under the auspices of the National<br>Council of Rectors - CNR, within a<br>Romanian pavilion "Study in<br>Romania" |
| 3   | 11-14<br>September<br>2018 | Geneva,<br>Switzerland    | 30 <sup>th</sup> European Association<br>for International Education<br>– EAIE Annual Conference<br>and Exhibition | Participation with its own stand<br>under the auspices of the National<br>Council of Rectors - CNR, within a<br>Romanian pavilion "Study in<br>Romania" |
| 4   | 27 – 31<br>May 2019        | Washington<br>, USA       | NAFSA Annual<br>Conference and Expo  | Participation with its own stand<br>under the auspices of the National<br>Council of Rectors - CNR, within a<br>Romanian pavilion "Study in<br>Romania" |
| 5   | 24-27<br>September<br>2019 | Helsinki,<br>Finland      | European Association for<br>International Education –<br>EAIE Annual Conference<br>and Exhibition                  | Participation with its own stand<br>under the auspices of the National<br>Council of Rectors - CNR, within a<br>Romanian pavilion "Study in<br>Romania" |
| 6   | 11-13<br>October<br>2019   | Hi Shi Min,<br>Hanoi      | Vietnam Global Education<br>Fair - GEF   | Participation with its own stand<br>under the auspices of the National<br>Council of Rectors - CNR, within a<br>Romanian pavilion "Study in<br>Romania" |
| 7   | 28-30<br>October<br>2019   | Istambul,<br>Turkey       | IEFT Fall Fair EuroAsia<br>Agent Workshop  | Participation with its own stand  |

# 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> </ul> | <ul> <li>Lack of interest of students from the other universities (including internationa) for study admission.</li> <li>Lack of papers published in the journals indexed in WoS database</li> </ul> |
| <ul> <li>Cooperation with the industry</li> </ul>   |  |
| Opportunities:  | Threats:   |



| <ul> <li>Stronger cooperation with industry in<br/>terms of employing of the graduate<br/>doctors</li> </ul>                                    | <ul> <li>Low financial support offered to Ph.D.<br/>students by the state.</li> </ul> |
|---|---|
| <ul> <li>Electrical engineering is a highly demanded professional field on the labor market.</li> <li>Stronger internationalization.</li> </ul> |   |

# V. Overview of judgments awarded and of the recommendations

| No. | Type of<br>indicator<br>(PI, PI *,<br>CPI) | Performance indicator  | Judgment  | Recommendations |
|-----|--|--|-----------|-----------------|
| 1.  | PI   | <ul> <li>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: <ul> <li>a) the internal regulations of the Doctoral School;</li> <li>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;</li> <li>c) the Methodologies for organizing and conducting doctoral studies (for the admission of doctoral studies);</li> <li>d) the existence of mechanisms for recognizing the status of a Doctoral advisor and the equivalence of the doctoral degree obtained abroad;</li> <li>e) functional management structures (Council of the doctoral school), giving as well proof of the regularity of meetings;</li> <li>f) the contract for doctoral studies;</li> <li>g) internal procedures for the analysis and approval of proposals regarding the training for doctoral study programs based on advanced academic studies.</li> </ul> </li> </ul> | fulfilled |                 |
| 2.  | PI   | <b>A.1.1.2.</b> 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   | fulfilled |                 |



|    |      | Code of Doctoral Studies with subsequent amendments and additions.   |           |  |
|----|------|--|-----------|--|
| 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<br>(not mandatory). Since you are collecting<br>all the data about the achievements of the<br>PhD students, maybe it would be good to<br>award the best PhD students every year.<br>Maybe prepare some regulations about<br>awarding the best PhD students (if you<br>don't have such a regulation). This can<br>encourage PhD students to be better<br>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   | <b>A.1.3.1.</b> 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<br>(not mandatory). It would be good to have<br>a regulation on the institution level which<br>will award researchers who apply for<br>grants for research projects and for<br>researchers who have been approved<br>research projects. This will encourage PhD<br>advisors to apply for more projects and<br>increase the possibility to get more new<br>PhD student positions. In this way number<br>of PhD students can be increased. |
| 6. | PI * | <b>A.1.3.2.</b> 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%.  | fulfilled | Increase the cooperation with industry.<br>Maybe partners from the industry can find<br>interest in some of the researches and in<br>this way financially support PhD students.  |
| 7. | PI * | <b>A.1.3.3.</b> 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.).  | fulfilled | From the amounts of doctoral grants<br>obtained by the university through<br>institutional contracts and of tuition fees<br>collected from the doctoral students<br>enrolled in the paid tuition system some<br>specific percentage can be yearly used for<br>the projects PhD students. On the level of<br>Electrical Engineering domain University<br>organizes tender for PhD Students'<br>projects. PhD students in agreement with   |



|     |      |  |           | their supervisors apply their project.<br>Through these projects, students can<br>receive funds for attending the conference,<br>pay fees for journals, buy some small<br>equipment (e.g. laptop), etc. In this way,<br>students can gain experience in writing<br>project proposals, and later when they<br>finish PhD they can easily apply their own<br>projects for international and national<br>research grants. |
|-----|------|--|-----------|--|
| 8.  | CPI  | <b>A.2.1.1.</b> 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  | <b>A.3.1.1.</b> 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.  | fulfilled |  |
| 11. | PI   | <b>A.3.1.3.</b> 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 * | <b>A.3.1.4.</b> 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  | <b>A.3.2.1.</b> 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. | fulfilled        |  |
| 14. | PI * | <b>A.3.2.2.</b> 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   | Not<br>fulfilled | Recommendation is to develop a strategy<br>for the promotion of doctoral study on state<br>and international level to attract master<br>students from other universities and other<br>countries to enroll study. |



|     | (**** <u>-</u> -** |   |           |
|-----|--------------------|---|-----------|
|     |                    | budget, put out through contest within the<br>doctoral domain is at least 0.2 or the ratio<br>between the number of candidates within the<br>past five years and the number of seats<br>funded by the state budget put out through<br>contest within the doctoral studies domain is<br>at least 1,2.  |           |
| 16. | PI *               | <b>B.1.2.1.</b> 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>B.1.2.2.</b> The expelling rate, including renouncement / dropping out of doctoral students 3, respectively 4, years after admission does not exceed 30%.  | fulfilled |
| 18. | PI                 | <b>B.2.1.1.</b> 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>B.2.1.3.</b> The IOSUD has mechanisms to<br>ensure that the academic training program<br>based on advanced university studies<br>addresses "the learning outcomes", specifying<br>the knowledge, skills, responsibility and<br>autonomy that doctoral students should<br>acquire after completing each discipline or<br>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. | CPI  | <b>B.3.1.1.</b> 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>B.3.1.2.</b> 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>B.3.2.2.</b> 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   | <b>C.1.1.1.</b> The Doctoral school in the respective university study domain shall demonstrate the continuous development of the evaluation  | fulfilled |   |



|     |      | process and its internal quality assurance<br>following a procedure developed and applied at<br>the level of the IOSUD, the following assessed<br>criteria being mandatory:<br>a) the scientific work of Doctoral advisors;<br>b) the infrastructure and logistics necessary to<br>carry out the research activity;<br>c) the procedures and subsequent rules based<br>on which doctoral studies are organized;<br>d) the scientific activity of doctoral students;<br>e) the training program based on advanced<br>academic studies of doctoral students;<br>f) social and academic services (including for<br>participation at different events, publishing<br>papers etc.) and counselling made available to<br>doctoral students.  |           |  |
|-----|------|--|-----------|--|
| 28. | PI * | <b>C.1.1.2.</b> 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. | CPI  | <ul> <li>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: <ul> <li>a) the Doctoral School regulation;</li> <li>b) the admission regulation;</li> <li>c) the doctoral studies contract;</li> <li>d) the study completion regulation including the procedure for the public presentation of the thesis;</li> <li>e) the content of training program based on advanced academic studies;</li> <li>f) the academic and scientific profile, thematic areas/research themes of the Doctoral advisors within the domain, as well as their institutional contact data;</li> <li>g) the list of doctoral students within the domain with necessary information (year of registration; advisor);</li> <li>h) information on the standards for developing the doctoral thesis;</li> <li>i) links to the doctoral theses' summaries to be publicly presented and the date, time, place where they will be presented; this information</li> </ul> </li> </ul> | fulfilled |  |



|     |      | 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. | ΡΙ   | <b>C.2.2.2.</b> 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        | In the self-evaluation report, there is the<br>following sentence regarding this indicator:<br>"Each doctoral student has access, upon<br>request and with the consent of the<br>doctoral supervisor, to an electronic<br>system for checking the degree of<br>similarity with other existing scientific or<br>artistic creations".<br>I think that doctoral students should have<br>access to this kind of software all the time<br>and without any request. |
| 32. | PI   | <b>C.2.2.3.</b> 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 * | <b>C.3.1.1.</b> 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<br>recommended for indicator A 1.3.3. the<br>number of students attending international<br>conferences can be increased.<br>Once a year you can organize workshops<br>for the promotion of Erasmus mobility and<br>encourage students to apply.  |
| 34. | PI   | <b>C.3.1.2.</b> 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.   | Not<br>fulfilled |   |
| 35. | PI   | <b>C.3.1.3.</b> The internationalization of activities carried out during the doctoral studies is   | fulfilled        |   |



| 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.).          |  |

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.
- Award students for each paper published in the journals indexed in the WoS in order to increase number quality papers.

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.



Nr..../.....2021

Programul<sup>6</sup> vizitei de evaluare instituțională - IOSUD / domenii de studii universitare de doctorat a **Universității din Oradea** The timetable of the institutional evaluation visit - IOSUD / doctoral study domains at the **University of Oradea Perioada de derulare a vizitei: 15.11.2021 – 22.11.2021** The evaluation period: 15.11.2021 – 22.11.2021

## **Evaluarea Externă Periodică a IOSUD și a domeniilor de studii universitare de doctorat** *Periodical External Evaluation of the Institution Organising Doctoral Study Programs (IOSUD), and of the doctoral study domains*

| Intervalul<br>orar / Hour | Activitate / Activity   | Participanți / Participants   | <b>Observații/ Responsabil</b><br>Comments/ Responsible  |
|---------------------------|---|---|--|
|                           |   | Luni / Monday, 15.11.2021   |  |
| 09:00-10:45               | Întâlnire <b>preliminară</b> online pentru<br>pregătirea și armonizarea etapelor de<br>evaluare, în modul mixt, la nivel de<br>domenii de doctorat și IOSUD<br>Online preliminary meeting for the<br>preparation and harmonization of<br>evaluation steps, in hybrid mode, of<br>doctoral study domains and IOSUD | Comisia de evaluare IOSUD&domenii<br>IOSUD&domains evaluation panel<br>- toți membrii echipei de evaluare<br>all evaluation panel members | Înregistrare audio-video <b>ARACIS /</b> platforma <b>ZOOM</b><br>Audio-video recording ARACIS / ZOOM platform |
| 11:00-11:45               | Întâlnirea online a comisiei de experți<br>evaluatori cu reprezentanții <b>conducerii</b><br><b>universității și ai CSUD</b>  | Comisia de evaluare IOSUD&domenii<br>IOSUD&domains evaluation panel<br>- toți membrii echipei de evaluare<br>all evaluation panel members | Înregistrare audio-video / platforma UO<br>Audio-video recording UO / ZOOM platform                            |

<sup>&</sup>lt;sup>6</sup> În perioada vizitei, pot fi solicitate și alte întâlniri, pentru eventuale clarificări.

During the visit, other meetings may be requested for possible clarifications.

| Intervalul<br>orar / Hour | Activitate / Activity  | Participanți / Participants  | <b>Observații/ Responsabil</b><br>Comments/ Responsible                             |
|---------------------------|--|--|---|
|                           | Online meeting with representatives of the<br>institution and of the Council for Academic<br>Doctoral Studies (CSUD)   | <ul> <li>reprezentanți ai conducerii<br/>representatives of the University's<br/>management</li> <li>reprezentanți ai CSUD și ai școlii/școlilor<br/>doctorale<br/>representatives of the CSUD and of the<br/>Doctoral School /Schools</li> <li>persoana de contact IOSUD/domenii<br/>the contact person for IOSUD / doctoral<br/>domains</li> </ul> |   |
| 12:00-13:00               | Activități de evaluare<br><i>Evaluation activities</i><br><u>Domeniu<sup>7</sup></u> : Întâlnire online a comisiei de<br>experți evaluatori cu responsabilul<br>domeniului de studii universitare de<br>doctorat evaluat și cu echipa care a<br>realizat raportul de evaluare internă<br><u>Domain</u> : Online meeting with the contact<br>person for the doctoral study domain | Comisia de evaluare domeniu<br>Domain evaluation panel<br>-membrii comisiei de experți evaluatori<br>domeniu<br>members of domain evaluation panel<br>- responsabilul domeniului de studii<br>universitare de doctorat evaluat și echipa<br>care a realizat raportul de evaluare<br>internă  | Înregistrare audio-video / platforma UO<br>Audio-video recording UO / ZOOM platform |

<sup>&</sup>lt;sup>7</sup> Pentru toate întâlnirile din program unde se menționează domeniu, se vor organiza 11 întâlniri în <u>PARALEL</u> pentru cele 18 domenii de studii universitare de doctorat din componența IOSUD (1.SD\_Științe inginerești\_(Matematică), 2.SD\_ Științe inginerești \_Agronomie, 3.SD\_ Științe inginerești \_(Inginerie electrică, Inginerie energetică, IETTI), 4. SD\_ Științe inginerești \_(Inginerie și managemet, Inginerie industrială), 5.SD\_Geografie, 6. SD\_Sociologie, 7.SD\_ Științe economice (Finanțe, Economie, Administrarea afacerilor), 8. SD\_ Științe Umaniste si Arte (Filologie, Teologie), 9.SD\_Istorie, 10.SD\_ Științe biomedicale\_ Biologie, 11. SD\_ Științe biomedicale\_(Medicină, Farmacie). *For all the timetable meetings where the domain is mentioned, 11 meetings will be ORGANIZED IN PARALLEL for the 18 doctoral university studies domains within IOSUD (1.SD\_ Engineering Sciences\_( Mathematics), 2.SD\_ Engineering Sciences \_ Agronomy, 3.SD\_ Engineering Sciences\_( Electrical engineering, Energy engineering, EETIT), 4.SD\_Engineering Sciences\_( Engineering and Management, Industrial Engineering), 5.SD\_ Geography, 6.SD\_ Sociology, 7.SD\_ Economic Sciences (Business Administration, Economics, Finance), 8. SD\_ Humanistic Sciences and Arts (Philology, Theology), 9.SD\_ History, 10.SD\_ Biomedical Sciences\_( Biology), 11.SD\_ Biomedical Sciences\_( Medicine, Pharmacy).* 

| Intervalul<br>orar / Hour | Activitate / Activity  | Participanți / Participants  | <b>Observații/ Responsabil</b><br>Comments/ Responsible                             |
|---------------------------|--|--|---|
|                           | <b>under review a</b> nd the team who drafted the internal evaluation report   | The doctoral studies domain contact<br>person and the team who drafted the<br>internal evaluation report   |   |
| 13:15-14:15               | Activități de evaluare<br><i>Evaluation activities</i>   | Comisia de evaluare IOSUD<br>IOSUD evaluation panel  | Înregistrare audio-video / platforma UO<br>Audio-video recording UO / ZOOM platform |
|                           | <b>IOSUD</b> : Întâlnire online a comisiei de<br>experți evaluatori cu <b>directorul</b><br><b>CSUD/directorii școlilor doctorale din</b><br><b>IOSUD</b> supus procesului de evaluare și cu<br>echipa care a realizat raportul de evaluare<br>internă<br><u>IOSUD</u> : Online meeting with the director of<br>CSUD / directors of doctoral schools and | <ul> <li>membrii comisiei de experți evaluatori<br/>IOSUD</li> <li>members of IOSUD evaluation panel</li> <li>reprezentanți ai CSUD și ai școlii/școlilor<br/>doctorale/ IOSUD</li> <li>representatives of CSUD and of doctoral<br/>school(s)/IOSUD</li> </ul> |   |
| 14:30-15:30               | the team who drafted the internal<br>evaluation report<br>Activități de evaluare   | Comisia de evaluare domeniu  |   |
|                           | Evaluation activitiesDomeniu:Întâlnire online a comisiei de<br>experți evaluatori cu personalul didactic<br>aferent domeniului evaluatDomain:Online<br>meeting<br>with<br>the<br>academic staff corresponding to<br>the<br>doctoral study domain   | Domain evaluation panel<br>-membrii comisiei de experți evaluatori<br>domeniu<br>members of domain evaluation panel<br>-cadre didactice cu titlul de conducător de<br>doctorat<br>Doctoral coordinators  |   |
| 15:45–<br>16:45           | Activități de evaluare<br><i>Evaluation activities</i>   | Comisia de evaluare IOSUD<br>IOSUD evaluation panel  | Înregistrare audio-video / platforma UO<br>Audio-video recording UO / ZOOM platform |
|                           | <b>IOSUD:</b> Întâlnire online a comisiei de experți evaluatori cu <b>personalul didactic</b>  | - membrii comisiei de experți evaluatori<br>IOSUD  |   |

| Intervalul<br>orar / Hour | Activitate / Activity  | Participanți / Participants   | <b>Observații/ Responsabil</b><br>Comments/ Responsible                                 |
|---------------------------|--|---|---|
|                           | IOSUD: Online meeting with IOSUD academic staff  | - cadre didactice cu titlul de conducător de<br>doctorat            |   |
|                           |  | Doctoral coordinators   |   |
| 16:45-19:00               | Continuarea activităților de evaluare a<br>domeniilor de studii universitare de<br>doctorat și IOSUD | Comisia de evaluare IOSUD&domenii<br>IOSUD&domains evaluation panel | Se lucrează separat. <sup>8</sup> offline/online.<br>Independent evaluation activities. |
|                           | Continuation of the doctoral study domain  | - la nivel de IOSUD   |   |
|                           | and IOSUD evaluation activities  | at IOSUD level  |   |
|                           |  | - la nivel de domenii de doctorat                                   |   |
|                           |  | at doctoral study domain level                                      |   |
|                           |  | Marți / Tuesday, 16.11.2021   |   |
| - 09:00                   | Întâlnire online cu membrii Comisiei de  | Comisia de evaluare IOSUD&domenii                                   | Înregistrare audio-video / platforma UO   |
| 10:00                     | Etică a universității  | IOSUD&domains evaluation panel                                      | Audio-video recording UO / ZOOM platform  |
|                           | Online meeting with the members of the   |   |   |
|                           | Ethics Commission  | - toți membrii echipei de evaluare                                  |   |
|                           |  | all evaluation panel members  |   |
|                           |  | -membrii Comisiei de Etică  |   |
|                           |  | Ethics Commission members   |   |
|                           |  |   |   |
| 10:15 -                   | Activități de evaluare   | Comisia de evaluare IOSUD&domenii                                   | Înregistrare audio-video / platforma UO   |
| 11:15                     | Evaluation activities  | IOSUD&domains evaluation panel                                      | Audio-video recording UO / ZOOM platform  |
|                           |  | - toți membrii echipei de evaluare                                  |   |
|                           | Întâlnire online cu membrii <b>Comisiei</b>  | all evaluation panel members  |   |
|                           | pentru Evaluarea și Asigurarea Calității   |   |   |
|                           |  | - reprezentanți ai CEAC/Departament AC                              |   |

<sup>&</sup>lt;sup>8</sup> în cazul în care se organizează întâlniri suplimentare cu reprezentanții instituției de învățământ superior sau cu alte părți interesante, acestea se vor organiza în format online, după caz, de către instituția evaluată sau de către echipa de evaluare, iar înregistrările se vor încărca în *cloud-ul* ARACIS. Daca sunt întâlniri între membrii echipei de evaluare, nu este necesară încărcarea înregistrărilor. Se pot organiza și vizite la fața locului, de comun acord cu persoana de contact de la domeniul evaluat. *If additional meetings are organized* with the representatives of the higher education institution or with other interested parties, they will be organized in online format, as the case may be, by the evaluated institution or by the evaluation team, and the records will be uploaded to ARACIS' cloud. If there are meetings between the members of the evaluation team, it is not necessary to upload the records. On-site visits may also be arranged, in agreement with the contact person of the evaluated domain.

| Intervalul<br>orar / Hour | Activitate / Activity   | Participanți / Participants  | <b>Observații/ Responsabil</b><br>Comments/ Responsible   |
|---------------------------|---|--|---|
|                           | <b>(CEAC)</b> / Departamentul de asigurare a<br>calității<br>Online meeting with the Commission for<br>Quality Evaluation and Assurance (CEAC)<br>members / Quality Assurance Department  | representatives of Commission for Quality<br>Evaluation and Assurance (CEAC) / Quality<br>Assurance Department   |   |
| 11:30–<br>12:30           | Activități de evaluare<br><i>Evaluation activities</i><br><u>Domeniu</u> : Întâlnire online a comisiei de<br>evaluare cu <b>studenții doctoranzi</b><br><u>Domain:</u> Online meeting with PhD<br>students  | Comisia de evaluare domeniu<br>Domain evaluation panel<br>- membrii comisiei de experți evaluatori<br>domeniu<br>members of domain evaluation panel<br>- studenții doctoranzi<br>PhD students                                    | Înregistrare audio-video <b>ARACIS /</b> platforma <b>ZOOM</b><br><i>Audio-video recording ARACIS / ZOOM platform</i> |
| 12:45-13:45               | Activități de evaluare<br><i>Evaluation activities</i><br><u>IOSUD</u> : Întâlnire online a comisiei de<br>evaluare cu <b>studenții doctoranzi</b><br><u>IOSUD</u> : Online meeting with PhD students   | Comisia de evaluare IOSUD<br>IOSUD evaluation panel<br>- membrii comisiei de experți evaluatori<br>IOSUD<br>members of IOSUD evaluation panel<br>- studenții doctoranzi<br>PhD students  | Înregistrare audio-video <b>ARACIS /</b> platforma <b>ZOOM</b><br><i>Audio-video recording ARACIS / ZOOM platform</i> |
| 14:00-15:00               | Activități de evaluare<br><i>Evaluation activities</i><br><u>Domeniu</u> : Întâlnire online a comisiei de<br>evaluare cu reprezentanți ai <b>absolvenților</b><br><b>domeniului</b><br><u>Domain:</u> Online meeting with graduates<br>for the respective doctoral study domain | Comisia de evaluare domeniu<br>Domain evaluation panel<br>- membrii comisiei de experți evaluatori<br>domeniu<br>members of domain evaluation panel<br>- reprezentanți ai absolvenților<br>representatives of doctoral graduates | Înregistrare audio-video / platforma UO<br>Audio-video recording UO / ZOOM platform                                   |

| Intervalul<br>orar / Hour | Activitate / Activity   | Participanți / Participants   | <b>Observații/ Responsabil</b><br>Comments/ Responsible                                 |
|---------------------------|---|---|---|
| 15:15-16:15               | Activități de evaluare<br><i>Evaluation activities</i><br><u>IOSUD</u> : Întâlnire online a comisiei de<br>evaluare cu reprezentanți ai <b>absolvenților</b><br><b>IOSUD</b><br><u>IOSUD</u> : Online meeting with IOSUD<br>graduates   | Comisia de evaluare IOSUD<br>IOSUD evaluation panel<br>- membrii comisiei de experți evaluatori<br>IOSUD<br>members of IOSUD evaluation panel<br>- reprezentanți ai absolvenților<br>representatives of doctoral graduates                                  | Înregistrare audio-video / platforma UO<br>Audio-video recording UO / ZOOM platform     |
| 16:15-18:00               | Continuarea activităților de evaluare a<br>domeniilor de studii universitare de<br>doctorat și IOSUD<br>Continuation of the doctoral study domain<br>and IOSUD evaluation activities  | Comisia de evaluare IOSUD&domenii<br>IOSUD&domains evaluation panel<br>- la nivel de IOSUD<br>at IOSUD level<br>- la nivel de domenii de doctorat<br>at doctoral study domain level   | Se lucrează separat offline/online.<br>Independent evaluation activities offline/online |
|                           |   | Miercuri / Wednesday, 17.11.2021  |   |
| 09:00-10:00               | Activități de evaluare<br><i>Evaluation activities</i><br>Domeniu: Întâlnire online cu<br>directorii/responsabilii<br>centrelor/laboratoarelor de cercetare<br>aferente domeniului de studii<br>universitare de doctorat<br><u>Domain</u> : Online meeting with the<br>Directors/ persons in charge of the<br>research centers/laboratories within the<br>doctoral study domain | Comisia de evaluare domeniu<br>Domain evaluation panel<br>- membrii comisiei de experți evaluatori<br>domeniu<br>members of domain evaluation panel<br>-directorii centrelor / laboratoarelor de<br>cercetare<br>directors of research centers/laboratories | Înregistrare audio-video UO / platforma UO<br>Audio-video recording UO / ZOOM platform  |

| Intervalul<br>orar / Hour | Activitate / Activity   | Participanți / Participants  | <b>Observații/ Responsabil</b><br>Comments/ Responsible                             |
|---------------------------|---|--|---|
| 10:15-11:15               | Activități de evaluare<br><i>Evaluation activities</i><br><u>IOSUD:</u> Întâlnire online cu<br>directorii/responsabilii<br>centrelor/laboratoarelor de cercetare  | Comisia de evaluare IOSUD<br>IOSUD evaluation panel<br>- membrii comisiei de experți evaluatori<br>IOSUD<br>members of IOSUD evaluation panel  | Înregistrare audio-video / platforma UO<br>Audio-video recording UO / ZOOM platform |
|                           | IOSUD<br>IOSUD: Online meeting with the<br>Directors/ persons in charge of the<br>research centers/laboratories within<br>IOSUD   | - directorii centrelor / laboratoarelor de<br>cercetare<br><i>Directors of the research</i><br><i>centers/laboratories</i>   |   |
| 11:30 -<br>12:30          | Activități de evaluare<br><i>Evaluation activities</i><br>Domeniu:<br>Întâlnire online cu membrii Consiliului<br>școlii /școlilor doctorale (CSD) în cadrul<br>cărora funcționează domeniul evaluat<br><i>Domain:</i> Online meeting with Doctoral<br>Schools Council (CSD members) | Comisia de evaluare domeniu<br>Domain evaluation panel<br>- membrii comisiei de experți evaluatori<br>domeniu<br>members of domain evaluation panel<br>-membrii CSD<br>CSD's members | Înregistrare audio-video / platforma UO<br>Audio-video recording UO / ZOOM platform |
| 12:45-13:45               | Activități de evaluare<br>Evaluation activities<br>IOSUD: Întâlnire cu membrii Consiliului<br>Studiilor Universitare de Doctorat al<br>IOSUD<br>IOSUD: Online meeting with Doctoral<br>University Studies Council (CSUD)<br>members   | Comisia de evaluare IOSUD<br>IOSUD evaluation panel<br>- membrii comisiei de experți evaluatori<br>IOSUD<br>members of IOSUD evaluation panel<br>- membrii CSUD<br>CSUD's members    | Înregistrare audio-video / platforma UO<br>Audio-video recording UO / ZOOM platform |
| 14:00 -<br>15:00          | Activități de evaluare<br>Evaluation activities   | Comisia de evaluare domeniu<br>Domain evaluation panel   | Înregistrare audio-video / platforma UO<br>Audio-video recording UO / ZOOM platform |

| Intervalul<br>orar / Hour | Activitate / Activity  | Participanți / Participants   | <b>Observații/ Responsabil</b><br>Comments/ Responsible   |
|---------------------------|--|---|---|
|                           | <b>Domeniu:</b> Întâlnire online a comisiei de<br>evaluare cu reprezentanți <b>ai angajatorilor</b><br><b>absolvenților domeniului</b><br><u>Domain:</u> Online meeting with employers<br>of Doctoral graduates in the domain  | <ul> <li>membrii comisiei de experți evaluatori<br/>domeniu<br/>members of domain evaluation panel</li> <li>reprezentanți ai angajatorilor<br/>employers' representatives</li> </ul>                            |   |
| 15:15-16:15               | Activități de evaluare<br><i>Evaluation activities</i><br><u>IOSUD:</u> Întâlnire online a comisiei de<br>evaluare cu reprezentanți <b>ai angajatorilor</b><br><b>absolvenților</b><br><u>IOSUD:</u> Online meeting with employers of<br>doctoral graduates                                  | Comisia de evaluare IOSUD<br>IOSUD evaluation panel<br>- membrii comisiei de experți evaluatori<br>IOSUD<br>members of IOSUD evaluation panel<br>- reprezentanți ai angajatorilor<br>employers' representatives | Înregistrare audio-video / platforma UO<br>Audio-video recording UO / ZOOM platform                                   |
| 16:30 -17:30              | Întâlnire tehnică online, pentru<br>identificarea aspectelor specifice care<br>trebuie clarificate, dacă este cazul, pe<br>parcursul vizitei la fața locului<br>Online technical meeting to identify<br>specific issues that need to be clarified, if<br>necessary, during the on-site visit | Comisia de evaluare IOSUD&domenii<br>IOSUD&domains evaluation panel<br>- toți membrii echipei de vizită<br>all evaluation panel members   | Înregistrare audio-video <b>ARACIS /</b> platforma <b>ZOOM</b><br><i>Audio-video recording ARACIS / ZOOM platform</i> |
|                           |  | Joi / Thursday, 18.11.2021  |   |
| 09:00-18:00               | Reuniuni de lucru față în față <sup>9</sup> , vizitarea bazei materiale didactice și de cercetare  | <ul> <li>directorul de misiune şi coordonatorul,<br/>un student doctorand evaluator</li> </ul>  | Vizită UNIVERSITATE<br>Site visit to the university   |

<sup>&</sup>lt;sup>9</sup> Experții evaluatori la nivelul domeniilor de studii universitare de doctorat pot stabili independent programul vizitei la fața locului, de comun acord cu persoana de contact de la domeniul evaluat și respectând programul întâlnirilor comune cu restul membrilor echipei de evaluare. *The evaluators at doctoral study domain level can independently establish the program of the on-site visit, in agreement with the contact person for the evaluated domain and respecting the schedule of joint meetings with the rest of the evaluation panel members.* 

| $\mathbf{\cap}$           |  |  |   |
|---------------------------|--|--|---|
| Intervalul<br>orar / Hour | Activitate / Activity  | Participanți / Participants  | <b>Observații/ Responsabil</b><br>Comments/ Responsible                             |
|                           | Face-to-face working meetings, visiting<br>the educational and research<br>infrastructure                              | the Evaluation Director and the<br>coordinator of the IOSUD evaluation<br>panel, one student                   |   |
|                           |  | <ul> <li>reprezentanți ai universității<br/>university's representatives</li> </ul>                            |   |
|                           |  | Vineri / Friday, 19.11.2021  |   |
| 09:00-18:00               | Reuniuni de lucru față în față, vizitarea bazei materiale didactice și de cercetare                                    | - directorul de misiune și coordonatorul,<br>un student doctorand evaluator<br>the Evaluation Director and the | Vizită UNIVERSITATE<br>Site visit to the university                                 |
|                           | Face-to-face working meetings, visiting<br>the educational and research<br>infrastructure                              | coordinator of the IOSUD evaluation<br>panel, one student  |   |
|                           |  | - reprezentanți ai universității   |   |
|                           |  | university's representatives<br>Sâmbătă/ Saturday, 20.11.2021  |   |
| 10:00-11:30               | Întâlnire online pentru concluzii  | Comisia de evaluare IOSUD&domenii  | Înregistrare audio-video <b>ARACIS /</b> platforma <b>ZOOM</b>                      |
|                           | Online meeting for conclusions   | IOSUD&domains evaluation panel   | Audio-video recording ARACIS / ZOOM platform  |
|                           |  | <ul> <li>toți membrii echipei de evaluare<br/>all evaluation panel members</li> </ul>                          |   |
| 11:45-12:30               | Întâlnire finală online în vederea<br>prezentării principalelor constatări<br>rezultate în urma evaluării la nivel de  | Comisia de evaluare IOSUD&domenii<br>IOSUD&domains evaluation panel  | Înregistrare audio-video / platforma UO<br>Audio-video recording UO / ZOOM platform |
|                           | domenii de doctorat și IOSUD și a<br>recomandărilor de îmbunătățire a calității<br>Meeting with representatives of the | - toți membrii echipei de evaluare<br>all evaluation panel members   |   |
|                           | institution under review to discuss on the<br>conclusions of the evaluation process and<br>the main reccomandations    | <ul> <li>reprezentanții universității<br/>university's representatives</li> </ul>                              |   |



Prof. univ. dr. Oprean Radu

Prof.univ.dr. Țarcă Radu Cătălin

Director de misiune

**Director CSUD**