

The External Evaluation Report of a Doctoral Study Domain

Contents

- I. Introduction
- II. Methods used
- III. Analysis of performance indicators
- IV. SWOT Analysis
- V. Overview of judgments awarded and of the recommendations
- VI. Conclusions and general recommendations
- VII. Annexes

I. Introduction¹

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.).

This periodic external evaluation report was carried out for the evaluation of the Systems Engineering (SI) doctoral programme of IOSUD Polytechnic University of Timisoara (UPT).

Type of evaluation: periodic external evaluation

Evaluation visit period: 27 September - 1 October 2021.

Composition of the expert evaluation committee:

1. Prof. univ. dr. eng. Valentina Emilia Bălaş - Expert evaluator RNE, University "Aurel Vlaicu" Arad, Romania
2. Prof. univ. dr. eng. Gabor Kiss - international expert, Obuda University, Budapest, Hungary
3. Ing. drd. Florina-Luminița Besnea - PhD student, University of Craiova, Romania.

Due to the restrictions of the pandemic crisis, the evaluation was mainly conducted online. Meetings were organized through the platform Zoom in Romanian but with a simultaneous translator service.

The Doctoral School of Engineering Studies of IOSUD-UPT manages 13 areas of doctoral studies, according to HG 778/2015, HG 376/2016, HG 140/2017 and HG 158/2018, HG 326/2019, HG. 299/2020.

The Doctoral School of Engineering has a body of doctoral supervisors consisting of

¹ Each time when applicable the information shall be presented gender-wise.



a total of 148 PhD supervisors affiliated to IOSUD-UPT at the date of this self-evaluation report, of which

78 full doctoral supervisors (teaching staff with non-permanent employment contract in IOSUD-UPT), 53 associate doctoral supervisors (with fixed-term employment contract for supervising doctoral students in internship). A small proportion of associate doctoral supervisors do not have a contract with IOSUD-UPT at the time of this report because they are not currently supervising doctoral trainees but are professionally active.

61 full PhD supervisors who have obtained the habilitation certificate.

Within the Systems Engineering field there are 8 PhD supervisors affiliated to IOSUD UPT. Of these, 6 are holders within IOSUD UPT (Annex_A.3.1.2. of the self-assessment sheet of the PhD field).

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.

During the evaluation, the self- assessment report and provided annexes were used as the main elements for the evaluation. This information was complemented with additional documentation, such as the presentations displayed during the online meetings and the physical visit to the educational and research infrastructure.

The online meetings proceeded as scheduled with the different stakeholders: representatives of the institution and of the Council for Academic Doctoral Studies (CSUD), responsible of doctoral domain and the team who drafted the internal evaluation report, doctoral coordinators, PhD students, members of the Ethics Commission, members of the Commission for Quality Evaluation and Assurance, the Directors and persons in charge of the research centers/laboratories, Doctoral Studies Council, employers of doctoral graduates and graduates. The meetings were moderated by the evaluation team, and attendants answered to the question raised by the members of the evaluation panel. In general, all the meeting were satisfactorily carried out and the discussion with attendants helped to clarify the different issues raised by the evaluation members.

III. Analysis of ARACIS's performance indicators

Domain A. INSTITUTIONAL CAPACITY

The doctoral school has proven to adopt the institutional framework required by legal regulations to conduct the doctoral studies. The research infrastructure is adequate to support students and supervisors and the quality of human resources is also good and over the required limits.

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

From the institutional and managerial point of view, the doctoral school covered satisfactorily all the issues related to the adoption and implementation of specific regulations for doctorate schools and enough financial and logistics resources are allocated to carry out the doctoral studies' mission.

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.

The Systems Engineering Doctoral School has adequately implemented all the aspects included in the specific legislation of doctoral studies. Both indicators under the standard A.1.1. are fulfilled and there is evidence that confirm the application of specific regulations, being this information accessible to all students.

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.

The general framework of the doctoral studies is defined by the IOSUD Institutional Regulation, but there is also a regulation on the organisation, operation, and internal quality assurance at the level of the Systems Engineering Doctoral School. The internal regulations cover aspects such as the procedures for conducting elections for the position of Director of the Doctoral School Council (CSD), SCD members and PhD students' representatives, the organisation of doctoral studies including admission procedures, the recognition of the position of doctoral supervisor, the creation of functional management structures (Council of the Doctoral School, CSD) to coordinate the doctoral activity, the study contracts with all students admitted to the doctoral programs and the internal procedures for the analysis and approval of topic proposals.

The Council of the Systems Engineering Doctoral School consists of 3 Doctoral supervisors from the University of Craiova, an external member, and a PhD student.

Evidence that supports the implementation of the indicator are the general framework and internal procedures of the doctoral school, the study contract and the internal procedures that regulates different aspects related to the organization of the doctoral studies. Additionally, it has been proven that the CSD meetings are held on a regular basis

There are no specific recommendations.

The indicator is fulfilled.

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.

The Regulation of the Doctoral School includes procedures for affiliation of new Doctoral supervisors, for the replacement of a Doctoral supervisor of a Doctoral student and conflict mediation, for the conditions under which the doctoral programme may be discontinued, for the detection of possible fraud in the academic and research activities and for ensuring access to research resources. The decision-making content of the training program and the attendance obligations of students are also covered by the internal regulations.

Documentation related to the IOSUD Regulation and the Regulation of the Systems Engineering Doctoral School have been provided as evidence of the previous procedures.

There are no specific recommendations.



The indicator is fulfilled.

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

The IT system is adequate to keep record and analyse the evolution of doctoral students. Information is easily accessible and facilitates the guidance of students. Yet, the information at the website should be also available in English. Accessibility to anti- plagiarism is also guaranteed.

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.

The Information System of the Polytechnic University of Timisoara records PhD students' activities: exam results, reports, research activity assessment and participation in national and international scientific events, as well as the publication of some specialized research papers. Supplementary documentation provides a description of the information system, its administration and management procedures and a print screen of a PhD student web page. Each PhD student has access to the system through an account and a password,

Evidence and online meetings proved that this system is working adequately.

As a recommendation, it is suggested to use of an appropriate platform with access for all persons involved in the management of doctoral student records.

The indicator is fulfilled.

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.

IOSUD ensures the verification of the authenticity and originality of doctoral theses and other research works using www.sistemantiplagiat.ro software, recognized by the National Council for Attesting the University Titles, Diplomas and Certificates (CNATDCU). If the similarity index report is inadequate, the Doctoral candidate is recommended to revise the thesis and resubmit it.

As a recommendation, it is suggested to using anonymised samples of PhD theses to educate students about plagiarism, with a comparison of the three plagiarism detection systems that UPT has. It is advisable to specify the sanction imposed in case of plagiarism detection.

The indicator is fulfilled.

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.

Financial resources are optimally used. Research projects and grant headed by the PhD advisors provide additional funding for scholarships and for supporting students' expenses associated to their training program. All the indicators are above the required limits.

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.

During the period under review, the Systems Engineering PhD team participated in the implementation and completion of the grants listed in Annex_A.1.3.1. obtained by PhD supervisors in the field. Involvement was in both research and institutional grants.

Research grants address topical issues for the PhD field under consideration, with PhD students being involved in research projects, according to the legislation in force (see Annex_A.1.3.2-3.).

There are no specific recommendations.

The indicator is fulfilled.

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%.

In the context of the quality indicator IOSUD-UPT has used and uses the following financial resources from its own income to support doctoral students to carry out their doctoral study programmes:

- Doctoral scholarships from UPT own revenues, awarded for the year 2018 on the basis of HCA no. 44/11.09.2018 and for the year 2019 on the basis of HCA 73/24.09.2019 (Annex_A.1.3.2-1.).

- Doctoral grants from UPT's own revenues for the completion of doctoral studies awarded on the basis of the decision of the UPT Senate or the UPT Board of Directors (Annex_A.1.3.2-2.). In the case of scholarships for the extension of doctoral studies, only those doctoral students who were receiving funding at the time of the evaluation of the doctoral field were taken into account.

- Engaging doctoral students in research grants according to the legislation in force (Annex_A.1.3.2-3.).

- Annex_A.1.3.2. presents the list of PhD students in the field of Systems Engineering, with an explicit indication of the PhD students additionally funded from UPT own income.

- Existing doctoral students at the time of evaluation: 26

- Existing doctoral students at the time of the evaluation receiving funding from sources other than government funding: 7

$7/26 * 100 = 26.92\%$ CRITERION MET $\geq 20\%$

The estimated percentage is estimated to be 26.92%, which is above the required limit of 20%.

There are no specific recommendations.

The indicator is fulfilled.

Performance Indicator *A.1.3.3.2 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

² 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 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.).

At the Polytechnic University of Timisoara, the accounting statement of income and training costs is carried out at the level of Doctoral Schools, rather than at the level of doctoral fields. For accounting the income in the Systems Engineering doctoral field in the last 5 years, the percentage of students of the doctoral field with respect to the total of doctorate students at the school was calculated. The training costs of doctoral students consist of participation fees for attending conferences, travel expenses and internships. The estimated percentage is estimated to be 12.59%, which is above the required limit of 10%.

There are no specific recommendations.

The indicator is fulfilled.

Criterion A.2. Research infrastructure

The research infrastructure is aligned with doctoral studies' research lines and allows students to carry out the required experiments for the validation of their research works.

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

The research infrastructure is aligned with doctoral studies' research lines and allows students to carry out the required experiments for the validation of their research works.

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.

The research infrastructure is adequate for conducting the required research in the doctoral field and both students and supervisors are satisfied with the research facilities.

There are no specific recommendations.

The indicator is fulfilled.

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.

The analysis carried out for the 4 indicators of this standard leads to the conclusion that the field of Systems Engineering at UPT has a qualified and experienced staff to carry out the PhD programme.

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.



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.*

All 8 Doctoral supervisors that belongs to the doctoral field of Systems Engineering fully meet the current CNATDCU minimum standards. Therefore, the indicator is accomplished.

Recommendations: Supervisors' web profiles should provide the following information in different tabs: research area, students, key publications and grants. Such information should be provided in both Romanian and English.

The indicator is fulfilled.

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.*

Within the Systems Engineering field there are 8 PhD supervisors affiliated to IOSUD UPT. Of these, 5 are holders within IOSUD UPT (Annex_A.3.1.2.).

$$5/8 = 62,50 \% \text{ holders}$$

The estimated percentage is estimated to be 62.50%, which is above the required limit of 50%.

There are no specific recommendations.

The indicator is fulfilled.

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.*

All the subjects in the advanced undergraduate training programme related to the PhD in Systems Engineering are taught by professors with the title of PhD supervisor, or by professors or lecturers with extensive experience in the field of the subjects taught.

Annex_A.3.1.3. gives an example of the disciplines of the advanced degree-based training programme and their holders.

Recommendations: It is recommended to review the course curriculum using the latest research papers. It is advisable to link the research strategy with the research facilities.

The indicator is fulfilled.



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 programs³ does not exceed 20%.*

Out of a total of 8 PhD supervisors in the field of Systems Engineering, 0 (zero) PhD supervisors are supervising at the same time more than 8 PhD students, but not more than 12, during their PhD studies (3 or 4 years, depending on the field, plus legally granted extension periods). The weighting is therefore:

$$(0/8)*100 = 0\%$$

The criterion is met, because the indicator does not exceed the value of 20%

Recommendations: A better distribution of doctoral students among the PhD supervisors in the field of Systems Engineering is advisable in order to cover as evenly as possible the growing demand in the doctoral field evaluated.

The indicator is fulfilled.

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

The analysis of the two indicators of the standard shows that all PhD supervisors in the field of Systems Engineering are internationally visible, carrying out sustained, high-level scientific activity.

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, membership on juries or umpire teams in artistic events or international competitions.*

The 8 PhD supervisors of the Systems Engineering domain meet this criterion.

Recommendation: It is recommended that the Faculty adopts a strategy to continuously measure WoS/ISI publications and academic visibility metrics.

The indicator is fulfilled.

³ 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.



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.*

All the 8 supervisors achieved in the last 5 years more than 25% of the score required by the CNATDCU minimum standards.

There are no specific recommendations.

The indicator is fulfilled.

Domain B. EDUCATIONAL EFFECTIVENESS

**general description of domain analysis.*

For the PhD field of Systems Engineering, all 12 indicators for Domain B. Educational Effectiveness are met. From the analysis of the report and the related annexes it appears that an adequate number of candidates of very good quality apply to the admission competition for the IS PhD field. The content of the PhD programmes in the IS field is adequate and meets all the requirements. Also, the results of doctoral studies are adequate and IOSUD UTCN and the IS field have adequate procedures for the evaluation of these results.

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.

The ratio between the number of applicants in the last five years and the number of places available in the doctoral programme is 1.21.

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

The ratio between the number of Master's graduates from educational institutions other than IOSUD - UPT, enrolled in the PhD admission (last 5 years) and the number of places financed from the state budget - Systems Engineering field is $1.21 > 1.2$.

Recommendations: It is recommended that the PhD field improves its ability to attract students from other higher education institutions, including from abroad.

The indicator is fulfilled.



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

Following the analysis of the 2 indicators of the standard (met), it appears that admission to PhD studies in the field of Systems Engineering is based on selection criteria that ensure academic, research and professional performance. This, coupled with an expulsion (drop-out) rate of 0% , demonstrates that the standard is met.

The standard is deemed to be met.

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.

Admission to doctoral studies in IOSUD-UPT is regulated by the Institutional Procedure on the organization and conduct of admission to doctoral studies in UPT, updated annually to be in line with legislative regulations.

According to this procedure, there is a set of criteria for the selection of candidates (Annex 7 of the Admission Procedure)

- Academic performance is quantified by grades N1-N4 in the Selection Criteria.
- The interview with the applicant - covers the quality and clarity of the study directions and intentions materialised in the presentation of the research topic proposal - is quantified on the basis of N5
- Interest in scientific research is quantified in the N6 - N8 score
- Publications in the field are quantified as N9 - N10

Admission to doctoral studies at IOSUD-UPT takes place on the basis of an admission colloquium.

The Council of the Doctoral School of Engineering Studies of IOSUD-UPT establishes and posts, after the registration period, the doctoral admission committees associated with the doctoral fields of IOSUD-UPT. The doctoral admission committee consists of permanent members, the secretary of the committee and the chairman of the committee. The permanent members of the committee are the same for both admission sessions.

http://www.upt.ro/img/files/2018-2019/admitere/doctorat/IOSUD-UPT-admitere-2019_procedura.pdf

There are no specific recommendations.

The indicator is fulfilled.

Performance Indicator B.1.2.2. The expelling rate, including renouncement / dropping out of doctoral students 3, respectively 4, years after admission⁴ does not exceed 30%.

1 out of 29 doctoral students abandoned in the last 5 years, which represents a dropout rate of 3.45%, below the 30% limit.

There are no specific recommendations.

⁴ 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.



The indicator is fulfilled.

Criterion B.2. The content of doctoral programs

Standard B.2.1. The training program based on advanced university studies is appropriate to improve doctoral students' research skills and to strengthen ethical behavior in science.

The analysis shows that all 5 indicators of the standard are met.

It is assessed that the standard is met.

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.*

From the discussions with doctoral students it was revealed that the subjects in the Advanced University Studies-based training programme are chosen by mutual agreement between the doctoral student and the PhD supervisor closely related to the research directions of the doctoral thesis, 2 specialist subjects not studied during the Master's programme (e.g.. Modelling and Simulation of Discrete Systems, Systems Testing and Diagnostics) plus the Ethics discipline.

From the answers given in the questionnaire to the PhD students, it appears that 37.5% of the PhD students positively evaluate the relevance of these disciplines in the research conducted.

Recommendations:

Continuously update the content of these disciplines relevant to the scientific research training of PhD students. Course material should be revised using state-of-the-art research papers/surveys as the main resource.

Conduct the courses within the disciplines separately from the MSc students in order to achieve the deepening and adaptation of concepts for PhD students.

Courses should be one of the components of assessment. Introduce a mandatory module a course related to innovation management (patent filing, research commercialisation route, start-up and startup process).

The indicator is fulfilled.

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.*

In the curriculum of the doctoral programme there is the discipline of Ethics, according to the information in the self-evaluation file. Doctoral students consider this discipline to be very relevant (37.5%) in the course of research and in the elaboration of the doctoral thesis, percentage resulting from the completion of the questionnaire applied during the visit.



Recommendations: It is recommended to explore the possibility of introducing course modules focused on domain-oriented ethics topics (e.g. digital ethics, artificial intelligence ethics).

Continuously update the content of the Ethics discipline for the training of PhD students in scientific research.

The indicator is fulfilled.

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 activities⁵.*

Doctoral students consider to a large extent (37.5%) the need to introduce an academic writing course that can guide them in writing research reports, producing scientific articles, writing projects for funding from national or even international grants.

Recommendations: The curricula of the disciplines should explicitly address the learning outcomes that doctoral students are expected to achieve.

Critical thinking and independent research methodology should be incorporated into training. A systematic approach to internship opportunities and training needs to be defined. Learning outcomes can be achieved through coursework.

The indicator is fulfilled

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.*

At the meeting with PhD students it was highlighted that the PhD supervisor together with the mentoring committee is involved in regular or as needed discussions and meetings focused on the PhD thesis. The PhD students receive feedback from them through the discussions held, which is also reflected in the answers to the questionnaire.

Recommendations: A written record of the meetings between doctoral students and the mentoring committee should be kept, including in electronic format.

An IT system is needed to record meetings, agenda and action plan.

The indicator is fulfilled

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.*

⁵ 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.



Annex_B.2.1.5. shows the PhD students existing at the time of the evaluation and the composition of the mentoring committees for the field of Systems Engineering.

Criterion is met $\leq 3:1$

Recommendation: It is recommended that the number of PhD supervisors and teaching staff should be increased to improve the ratio and coordination of PhD students.

Co-operation more international experts in the field to the mentoring committees.

The indicator is fulfilled.

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

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

The analysis shows that the two indicators of the standard are met. IS doctoral students have a research activity that is valued, including presentations at scientific conferences and scientific publications, in large numbers and of very good quality.

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.*

The number of PhD students who obtained their PhD degree in 2016-2020 is 8.

- The list of relevant papers produced by PhD students who obtained the PhD title in the period 2016-2020 can be found in Annex_B.3.1.1.

The committee randomly selected 5 articles for analysis. All evaluated papers show significant contributions to the field of Systems Engineering.

Recommendations: It is recommended that PhD students submit their research results for publication mainly to journals with an impact factor. Faculty should define a strategy so that as many research results as possible become internationally excellent.

The indicator is fulfilled.

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.*

- Number of doctoral students who obtained their doctoral degree in 2016-2020 is 8

- Number of papers presented at conferences is 46

Each PhD student has a minimum of one paper presented at prestigious international events, details can be found in Annex_B.3.1.2. - List of students who have obtained the PhD title in the period 2016-2020 and the number of participations in conferences - Systems Engineering field.



46 / 8 = 5,75

Criterion is met ≥ 1

Recommendations: the Faculty should adopt a strategy where results can be presented in excellent international events supported by scientific organizations such as IEEE, IFAC.

The indicator is fulfilled.

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.

The analysis shows that there are no cases where the same external scientific referee has been co-operated in more than two committees in the same academic year. The second indicator of the standard is exceeded in the case of only one reviewer.

The standard is found to be met.

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.

For the field of Systems Engineering, in the period 2016-2020, there were NO cases in which the same expert was part of more than two PhD committees for the public defense of theses coordinated by the same PhD supervisor in one year, as follows:

- 2016: 2 theses defended. No scientific supervisor had more than two defended theses.
- 2017: 1 thesis defended.
- 2018: 1 thesis defended.
- 2019: 1 thesis defended.
- 2020: 3 defended theses, under the supervision of three different PhD supervisors.

The list of students who defended their PhD theses in the period 2016-2020 and the committees of scientific referees - field of Systems Engineering are presented in Annex_B.3.2.1.

There are no specific recommendations.

The indicator is fulfilled.

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.

For the Systems Engineering field, 8 PhD theses were defended between 2016-2020.

According to the specifications of indicator B.3.2.2, only those PhD fields are analysed in which at least ten PhD theses have been defended in the last five years.

Recommendations

The faculty should keep track of thesis committees so that the criterion is met.

The indicator is fulfilled.



Domain C. QUALITY MANAGEMENT

IOSUD-UPT proves a good quality management, which allows the development of doctoral studies in adequate quality conditions.

All 9 indicators related to Area C. Quality Management are met. The Quality Assurance and Monitoring Procedure is implemented and followed within IOSUDUPT. IOSUD also ensures transparency of information and accessibility to learning resources. The degree of internationalisation of doctoral studies is also very good and the indicators related to this criterion are met.

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

There is a defined framework for quality assurance, with procedures that have been or are being implemented. The framework includes procedures for collecting information about students and supervisors, the training programme and the necessary infrastructure. There are also procedures for the detection of deficiencies and an action plan for the management of detected deficiencies.

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.

IOSUD of UPT has the institutional framework in place for internal quality assurance.

From the analysis carried out, it appears that there are Policies and procedures for quality monitoring and evaluation at both the UTCN IOSUD and DIS levels. IOSUD has developed and regularly applies the Quality Monitoring and Evaluation Procedure. There are also mechanisms in place to collect feedback from doctoral students, followed by measures to improve academic and administrative processes.

It is assessed that the standard is met.

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.*

The UPT Doctoral School has specific procedures in place that demonstrate the constant conduct of its internal quality assessment and assurance process. The procedures developed and applied at IOSUD level are presented in Annexes C111 together with the URL addresses where available.



Recommendations: It is recommended that the Quality Monitoring and Evaluation Procedure be reviewed periodically. It is also recommended that periodic reports include an action plan in which deficiencies are identified and listed and remedial actions are proposed along with deadlines, a responsible person and indicators to measure the progress of the detected problem.

Involve different stakeholders (e.g. companies, public organisations) in the design of the programme. A workflow system is needed to manage conflicts.

Greater promotion of the possibilities made available by the university to students in terms of social or academic support, but also of the counselling they can call upon.

The indicator is fulfilled.

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.

Within the UPT Doctoral School there are mechanisms to evaluate the level of satisfaction of doctoral students. Feedback mechanisms are implemented to obtain annual information from PhD students by:

Evaluation mechanisms are implemented at UPT Doctoral School level to identify the needs of doctoral students. Thus, a customer satisfaction evaluation procedure is developed, with doctoral students completing a questionnaire in this regard. Both documents were presented in Annexes C112 of the internal evaluation report.

Recommendations: Conduct regular discussion sessions following the results of the feedback provided by doctoral students to identify satisfaction issues.

It is recommended to use a systematic approach so that student feedback is used to improve the doctoral training programme.

The indicator is fulfilled.

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

The UPT Doctoral School ensures transparency in the presentation of information and accessibility to learning resources.

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

In the case of the Systems Engineering area of the Doctoral School, information of interest to doctoral students, future candidates and information of public interest is available for consultation in electronic format on the University website http://www.upt.ro/Informatii_studii-universitare-de-doctorat_266_ro.html.

IOSUD UPT publishes on its website, in compliance with the regulations in force on data protection, all the information required by candidates, doctoral students and other interested parties.

The standard is deemed to be met.



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.*

The Doctoral School, through IOSUD, publishes on the website of the organizing institution information such as:

Institutional Regulations for the Organisation and Conduct of Doctoral Studies at the Polytechnic University of Timisoara

Recommendations: It is also recommended to publish other useful information for doctoral students. Thus, it is recommended to better organize the web page of the doctoral school, including all relevant information for the student in the same subfield. It is recommended to complete the web display with the following information: the content of the training programmes based on advanced undergraduate studies, the scientific profile, the thematic areas/research topics of the PhD supervisors in the field.

Professors and PhD students should use their corporate e-mail for all activities university. This is important for maintaining the GDPR (General Data Protection Regulation) policy. Constant updating of the IOSUD website and the doctoral school website.

The indicator is fulfilled.

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

Doctoral students have access to the resources needed to carry out their doctoral studies in good conditions.

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.*

UPT PhD students have access to general databases with publications relevant to the field: Elsevier, SpringerLink Journals, Clarivate Analytics, Scopus, IEEE XPLORE, Legis. They have free access to the databases via the Anelis Plus and E-nformation platform, remotely from home via the institutional account provided by the university. In exceptional situations they call upon their PhD coordinator to access certain international databases.

PhD students have access to the literature and can also easily access the UPT library both online <https://library.upt.ro/baze-de-date/> and physically, and members of the professional associations IEEE,



SRAIT were among the PhD students present. These aspects were supported both during the meeting with the PhD students and from the answers received in the satisfaction questionnaire applied during the visit.

There are no specific recommendations.

The indicator is fulfilled.

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.

IOSUD-UPT has purchased the iThenticate software (<http://www.ithenticate.com/>) used to analyse the degree of similarity of the content of doctoral theses with other documents.

During the completion phase of the PhD thesis, the Doctoral School, through the person specifically designated for similarity analysis, generates a similarity report with the iThenticate software, which is sent to the PhD thesis supervisor.

Such similarity reports may be generated, at the request of the doctoral candidate or the doctoral supervisor, at various stages of the doctoral thesis or scientific work associated with the doctoral research programme.

For the doctoral thesis, the doctoral supervisor produces a similarity report, to which the report generated by the iThenticate software is attached.

Annex_C.2.2.2. presents examples of the use of the iThenticate software for PhD students in the field of Systems Engineering.

According to the self-assessment report IOSUD-UPT has purchased the iThenticate software (<http://www.ithenticate.com/>) mainly used for the analysis of the degree of similarity of the content of PhD theses with other documents. Doctoral students have access on request or through their supervisor to use this platform. During the meeting with PhD students one of them pointed out that he did not have access to anti-plagiarism software for checking scientific papers; when he wanted to check an article to be published he turned to collaborators outside Romania (India) who helped him in this respect. Other accounts of PhD students accessing such anti-plagiarism software, such as Turnitin, refer to a call to the PhD coordinator to check certain papers and identify the degree of similarity. Also, the answers given by PhD students through the questionnaire administered during the visit highlight the fact that they have largely free access to this electronic platform on request.

Recommendations: Specify the sanctions applied in case of plagiarism.

The indicator is fulfilled.

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.

Doctoral students have free access to the laboratories, libraries and other research facilities specific to Systems Engineering, visited on site.

Access to the material base and research infrastructure is within the students' reach, and the research laboratories provide the equipment they need to carry out experiments, as evidenced by the answers given by the PhD students (50% - Very much) in the satisfaction questionnaire.



In the contract of doctoral studies, concluded between IOSUD-UPT and each registered doctoral student, there are explicit obligations assumed by IOSUD-UPT regarding the access of doctoral students to the research infrastructure/facilities, as follows:

- Art.6.B.3 - to ensure the access of the doctoral student to the material basis of teaching and research within the doctoral studies (Annex_C.2.2.3. - Doctoral studies contract).
- Depending on the specifics of the research laboratory, the doctoral candidate is trained to strictly comply with the rules of work protection and fire prevention and extinction.

There are no specific recommendations.

The indicator is fulfilled.

Criterion C.3. Internationalization

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

The UPT Doctoral School demonstrates internationalisation and the situation could be substantially improved by adopting an internationalisation plan with clear and specific measures that are part of the mission of doctoral studies.

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.

- Annex_C.3.1.1-1. presents the ERASMUS mobility agreements between UPT and universities abroad.

- ERASMUS mobility agreements between UPT and universities abroad are publicly available at: http://www.upt.ro/international/Mobilitati-Si-Cooperari-Internationale_Acorduri-bilaterale-Erasmus+_8_ro.html

- The UPT Framework Cooperation Agreements with universities at home and abroad are publicly available at: http://www.upt.ro/international/Mobilitati-Si-Cooperari-Internationale_Acorduri-cadru-de-cooperare-cu-universitati-din-tara-si-strainatate_31_ro.html

- Cooperation agreements with enterprises, associations and research centres are publicly available at:

http://www.upt.ro/international/Mobilitati-Si-Cooperari-Internationale_Acorduri-de-cooperare-cu-intreprinderi,-asociatii-si-centre-de-cercetare_65_ro.html

IOSUD-UPT has constant concerns for increasing the degree of internationalization of students, implemented through the Strategic Plan for Internationalization of Education (2015-2020, respectively 2021-2028):

http://www.upt.ro/img/file/Proceduri/Strategy%20for%20Internationalisation_UPT_2021_2028.pdf

http://www.upt.ro/img/file/Proceduri/Strategy_for_internationalisation_UPT_2015_2020.pdf



Annex_C.3.1.1. presents the list of PhD students who have completed mobility placements, for the Systems Engineering field.

Doctoral students are aware of how to access financial resources to carry out Erasmus or international cotutelle mobility abroad through partnerships between UPT and other universities and are informed by email and publicly of such opportunities. The PhD students present at the meeting did not opt for such a mobility, most of them were carrying out teaching activities.

Following the analysis of the satisfaction questionnaire applied, the percentage of responses regarding the possibility to participate in different types of mobility is highlighted by the option Not at all in the proportion of 37.5%.

Recommendations: Encourage and motivate doctoral students to undertake at least one mobility during their doctoral training by adopting effective measures. Encourage PhD supervisors to conclude Erasmus+ or other international mobility agreements or grants. Define a KPI (Key Performance Indicator) on participation in events and winter/summer schools.

The indicator is fulfilled.

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.*

- Between January 2016 and December 2020, no thesis was defended in cotutelle with foreign experts in the field of Systems Engineering. At IOSUD UPT level, 2 theses in international cotutelle were defended during this period. Currently in IOSUD - UPT there are 3 PhD students in the period of doctoral studies whose thesis is in cotutelle coordination with foreign experts. The data are detailed in Annex_C.3.1.2-1. - Minutes of public defense of doctoral theses coordinated in cotutelle with foreign experts and list of doctoral students in IOSUD-UPT whose theses are coordinated in cotutelle with foreign experts.

- Annex_C.3.1.2-2. - presents the list of invited - leading experts who gave lectures/lectures for PhD students.

- Annex_C.3.1.2-3. - presents the list of invited - leading experts who gave lectures/lectures for PhD students as a result of mobility through the programme P1: Development of the national research - development system Sub-programme 1.1 - Human resources "Mobility projects for young researchers from the Diaspora".

Following discussions with PhD students, they attended lectures by invited expert professors, both in the university (e.g. one of the founders of the Linux operating system, Richard Stallman) and at international conferences they attended. According to the self-assessment report and the findings during the visit, no co-authored thesis with foreign experts in the field of Systems Engineering was defended between January 2016 and December 2020.

Recommendations: It is recommended to expand international collaborations and propose topics for international cotutelle.

It is also recommended to include international experts in the mentoring or thesis committees.

Implement stronger measures to organise international cotutelle doctoral studies.

It is recommended to define a strategy to organise invited lectures in a systematic way.

The indicator is partially fulfilled.



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.).*

The internationalization of activities is supported through: short-term mobility abroad of PhD students, participation of PhD students in summer schools, conferences and other events abroad (Annex_C.3.1.1.); inviting leading experts who have given courses and lectures for PhD students at UPT (Annex_C.3.1.2-2. and Annex_C.3.1.2-3.); informing the public and stakeholders about the PhD field by posting on the Study in Romania platforms (Annex_C.3.1.3. .1.3.3-2.); increasing the international visibility of PhD supervisors and implicitly of the Doctoral School through relevant publications in the field (Annex_A.3.2.1-1.), members of scientific committees of international publications and conferences, members of boards of international professional associations; invited to conferences or expert groups held abroad, members of PhD thesis committees at top universities abroad (Annex_A.3.2.1-2.).

In order to internationalize the activities of the doctoral school, IOSUD - UPT participated in various promotional missions, in educational fairs to attract international doctoral students, signed collaboration agreements with prestigious universities.

Within the Systems Engineering field in the period 2016-2020 no PhD thesis was defended that had international experts in the public defense committee.

Recommendations: it is recommended: to invite specialists from foreign institutions to the thesis mentoring and defense committees, and to participate in educational fairs to attract international PhD students.

- Initiatives to increase the number of foreign PhD students in Systems Engineering;
- Initiating Erasmus+ contracts and projects to organise thematic events with invited foreign specialists;
- Attracting UPT associate researchers from traditional university centres abroad, who can drive a better dynamics of the doctoral school.

Define a strategy to attract international experts and students.

The indicator is fulfilled.

IV. SWOT Analysis

<u>Strengths:</u>	<u>Weaknesses:</u>
<ul style="list-style-type: none"> - The experience of the teaching staff in the field of doctoral studies, a field with a tradition of more than 50 years since the first graduation of the bachelor-master-doctorate cycle. - Graduates of the IS field are highly qualified specialists in demand by higher education, research institutes and company R&D departments. 	<ul style="list-style-type: none"> - Low number of places in the budget given the increased attractiveness in the field: additional places should be requested from IOSUD / Ministry. - Additional information provided on the PhD school website on opportunities for PhD students.

<ul style="list-style-type: none"> - Doctoral supervisors are experienced specialists in the field with high international visibility. - PhD students have a very good level of training, with results disseminated in high impact publications, and a very good collaboration with PhD supervisors. - The material base has modern facilities, equipment, laboratories, library and access to BDI, and the research infrastructure in the research facilities is outstanding. - Very good visibility, including through co-organisation of internationally recognised conferences (IEEE, IFAC). - Development of collaboration with strong companies in the field: NOKIA, CONTINENTAL, HELLA (PhD students, laboratory equipment and infrastructure). - Providing additional incentives for performing PhD students (scholarships). - Provide funding to support scientific work. -Modernisation of the curriculum. -Industrial collaboration with industrial partners. -Well-defined workflow for admission and monitoring of PhD students. -Internationally excellent research work. 	<ul style="list-style-type: none"> -Lack of culture to establish collaboration between doctoral students. -Lack of KPIs so that each PhD student presents their work at at least one international event. -Lack of use of questionnaire feedback to improve the programme. -Lack of a clear strategy to attract PhD students and foreign researchers. - Lack of mechanisms to effectively encourage cotutelle PhDs and to invite international experts to lecture in the field.
<p style="text-align: center;"><u>Opportunities:</u></p> <ul style="list-style-type: none"> - National and European policy in which the development of the Systems Engineering field is considered a priority. - Increasing openness towards the industrial environment, with specificity in automotive and related fields, provided that a favourable environment exists. - Attracting foreign PhD students from Europe, but also from Asia and North African countries. -Exploit the region's competitive advantage to attract students from neighbouring countries (Serbia, Bulgaria, Moldova, Hungary). 	<p style="text-align: center;"><u>Threats:</u></p> <ul style="list-style-type: none"> - Competition from similar fields of study at national and European level. - Decreasing interest of young people in doctoral technical higher education, coupled with the rising cost of living and the effects of the pandemic. - Reduced national funding for research, with consequences for teachers and PhD students. - Relatively small number of PhD supervisors: however, obtaining habilitation and affiliation of new supervisors is affected by the higher minimum habilitation standards than in other engineering fields.

-Systematically manages innovation through patent filing and IPR (Intellectual Property Rights).	-Level financial support may not be attractive to talented graduates who prefer to pursue PhD studies abroad. -Research activities overlap with other doctoral schools (e.g. electronic engineering) raises questions about sustainability and attracting sufficient numbers of students. -Pandemics have a major impact on studies and online teaching methodologies need to be adopted.
--	---

V. Overview of judgments awarded and of the recommendations

No.	Type of indicator (*, C)	Performance indicator	Judgment	Recommendations
1		A.1.1.1	Fulfilled	
2		A.1.1.2	Fulfilled	
3		A.1.2.1	Fulfilled	It is suggested to use of an appropriate platform with access for all persons involved in the management of doctoral student records.
4		A.1.2.2	Fulfilled	It is suggested to using anonymised samples of PhD theses to educate students about plagiarism, with a comparison of the three plagiarism detection systems that UPT has. It is advisable to specify the sanction imposed in case of plagiarism detection.
5		A.1.3.1	Fulfilled	
6	*	A.1.3.2	Fulfilled	
7	*	A.1.3.3	Fulfilled	
8	C	A.2.1.1	Fulfilled	
9	C	A.3.1.1	Fulfilled	Supervisors' web profiles should provide the following information in different tabs: research area, students, key publications and grants. Such information should be provided in both Romanian and English.

10	*	A.3.1.2	Fulfilled	
11		A.3.1.3	Fulfilled	It is recommended to review the course curriculum using the latest research papers. It is advisable to link the research strategy with the research facilities.
12	*	A.3.1.4	Fulfilled	A better distribution of doctoral students among the PhD supervisors in the field of Systems Engineering is advisable in order to cover as evenly as possible the growing demand in the doctoral field evaluated.
13	C	A.3.2.1	Fulfilled	It is recommended that the Faculty adopts a strategy to continuously measure WoS/ISI publications and academic visibility metrics.
14	*	A.3.2.2	Fulfilled	
15	*	B.1.1.1	Fulfilled	It is recommended that the PhD field improves its ability to attract students from other higher education institutions, including from abroad.
16	*	B.1.2.1	Fulfilled	
17		B.1.2.2	Fulfilled	
18		B.2.1.1	Fulfilled	Continuously update the content of these disciplines relevant to the scientific research training of PhD students. Course material should be revised using state-of-the-art research papers/surveys as the main resource. Conduct the courses within the disciplines separately from the MSc students in order to achieve the deepening and adaptation of concepts for PhD students. Courses should be one of the components of assessment. Introduce a mandatory module a course related to innovation

				management (patent filing, research commercialisation route, start-up and startup process).
19		B.2.1.2	Fulfilled	<p>It is recommended to explore the possibility of introducing course modules focused on domain-oriented ethics topics (e.g. digital ethics, artificial intelligence ethics).</p> <p>Continuously update the content of the Ethics discipline for the training of PhD students in scientific research.</p>
20		B.2.1.3	Fulfilled	<p>The curricula of the disciplines should explicitly address the learning outcomes that doctoral students are expected to achieve.</p> <p>Critical thinking and independent research methodology should be incorporated into training. A systematic approach to internship opportunities and training needs to be defined. Learning outcomes can be achieved through coursework.</p>
21		B.2.1.4	Fulfilled	<p>A written record of the meetings between doctoral students and the mentoring committee should be kept, including in electronic format.</p> <p>An IT system is needed to record meetings, agenda and action plan.</p>
22	C	B.2.1.5	Fulfilled	<p>It is recommended that the number of PhD supervisors and teaching staff should be increased to improve the ratio and coordination of PhD students.</p> <p>Co-operation more international experts in the field to the mentoring committees.</p>

23	C	B.3.1.1	Fulfilled	It is recommended that PhD students submit their research results for publication mainly to journals with an impact factor. Faculty should define a strategy so that as many research results as possible become internationally excellent.
24	*	B.3.1.2	Fulfilled	The Faculty should adopt a strategy where results can be presented in excellent international events supported by scientific organizations such as IEEE, IFAC.
25	*	B.3.2.1	Fulfilled	
26	*	B.3.2.2	Fulfilled	The faculty should keep track of thesis committees so that the criterion is met.
27		C.1.1.1	Fulfilled	It is recommended that the Quality Monitoring and Evaluation Procedure be reviewed periodically. It is also recommended that periodic reports include an action plan in which deficiencies are identified and listed and remedial actions are proposed along with deadlines, a responsible person and indicators to measure the progress of the detected problem. Involve different stakeholders (e.g. companies, public organisations) in the design of the programme. A workflow system is needed to manage conflicts. Greater promotion of the possibilities made available by the university to students in terms of social or academic support, but also of the counselling they can call upon.
28	*	C.1.1.2	Fulfilled	Conduct regular discussion sessions following the

				<p>results of the feedback provided by doctoral students to identify satisfaction issues. It is recommended to use a systematic approach so that student feedback is used to improve the doctoral training programme.</p>
29	C	C.2.1.1	Fulfilled	<p>It is also recommended to publish other useful information for doctoral students. Thus, it is recommended to better organize the web page of the doctoral school, including all relevant information for the student in the same subfield. It is recommended to complete the web display with the following information: the content of the training programmes based on advanced undergraduate studies, the scientific profile, the thematic areas/research topics of the PhD supervisors in the field.</p> <p>Professors and PhD students should use their corporate e-mail for all activities university. This is important for maintaining the GDPR (General Data Protection Regulation) policy. Constant updating of the IOSUD website and the doctoral school website.</p>
30		C.2.2.1	Fulfilled	
31		C.2.2.2	Fulfilled	Specify the sanctions applied in case of plagiarism.
32		C.2.2.3	Fulfilled	
33	*	C.3.1.1	Fulfilled	Encourage and motivate doctoral students to undertake at least one mobility during their doctoral training by

				<p>adopting effective measures. Encourage PhD supervisors to conclude Erasmus+ or other international mobility agreements or grants.</p> <p>Define a KPI (Key Performance Indicator) on participation in events and winter/summer schools</p>
34		C.3.1.2	Partially Fulfilled	<p>It is recommended to expand international collaborations and propose topics for international cotutelle.</p> <p>It is also recommended to include international experts in the mentoring or thesis committees.</p> <p>Implement stronger measures to organise international cotutelle doctoral studies.</p> <p>It is recommended to define a strategy to organise invited lectures in a systematic way.</p>
35		C.3.1.3	Fulfilled	<p>it is recommended: to invite specialists from foreign institutions to the thesis mentoring and defense committees, and to participate in educational fairs to attract international PhD students.</p> <ul style="list-style-type: none"> - Initiatives to increase the number of foreign PhD students in Systems Engineering; - Initiating Erasmus+ contracts and projects to organise thematic events with invited foreign specialists; - Attracting UPT associate researchers from traditional university centres abroad, who can drive a better dynamics of the doctoral school.

				Define a strategy to attract international experts and students.
--	--	--	--	--

VI. Conclusions and general recommendations

The present periodic external evaluation report was conducted for the evaluation of the Doctoral Studies Area Systems Engineering (SI), Doctoral School (DS), IOSUD UPT.

From the analysis carried out on the Internal Evaluation Report, following the meetings held at all levels, as well as from the on-site visit to inspect the teaching and research infrastructure, it emerged that overall the Systems Engineering doctoral study area has a clear and well-defined mission, well thought-out objectives and programmes, successfully responding to growing market needs, being an interdisciplinary doctoral programme providing highly qualified specialists for research-development-innovation and educational work in higher education institutions, research institutes and R&D departments of companies in the field.

Doctoral students have access to a properly sized research infrastructure of the Doctoral School, benefiting also from a university library with extensive bibliographic resources, including online, and the support of a modern research infrastructure. Doctoral students also have access to additional financial resources: from structural funds, private scholarships, and participation in summer schools and international scientific events.

The IOSUD-UPT Doctoral School for Systems Engineering has 8 PhD supervisors, with a very good international visibility. In the last 5 years, many research grants obtained by PhD supervisors in the field of Systems Engineering have been carried out at the level of the doctoral school, in which PhD students have also been involved.

All quality indicators related to the standards and evaluation criteria are met, except one indicator which is partially met, and only specific recommendations are proposed for further good practice and continuous improvement of the quality of doctoral studies in Systems Engineering.

As general recommendations, it was found that the existing potential for internationalisation and connection with other institutions outside Romania should be developed. More international students need to be attracted and more opportunities for international mobility, cotutelle and academic relations with international experts need to be created. Public-private partnerships with companies oriented towards R&D in Systems Engineering should also be expanded to exploit the existing opportunities in industry.

General conclusions highlighted by the PhD students following the online meeting and the answers given in the "Questionnaire on the degree of satisfaction of PhD students at the Polytechnic University of Timisoara - Systems Engineering":

- Expectations of PhD students vis-a-vis the completion of their doctoral studies are in the foreground:
 - The possibility to continue their academic career within UPT and to have access to as many national and international grant competitions as possible;
 - Integration into the academic environment and continuation of the research started;
 - Facilitation by various state institutions to hire PhD students;
 - Possessing the ability to correlate and apply the knowledge acquired during doctoral studies in everyday contexts, related to economics, logistics, medicine and so on;



- Matching their own level of training and knowledge with the latest trends in their chosen field of study (correlation with elements of "state of the art");
- Possession of the necessary skills to be involved in multidisciplinary research projects as well as in the elaboration of scientific papers, in the context of the chosen field of study and its constant evolution;
- Aspects that could be changed/improved in the doctoral school concern:
 - "Elimination of bureaucracy, more respect from UPT employees towards students in general (in general in UPT people treat students with a superiority that is not really appropriate), more fairness in the admissions process, more funding to encourage deserving PhD students";
 - A better understanding of needs in the context of the current health situation;
 - "reviewing the work of all PhD students at the beginning of each PhD year according to certain achievements (a satisfactory number of published articles, Q1,Q2 articles, and other criteria) for the awarding of doctoral fellowships, those who did not receive a fellowship could benefit from certain funding or incentives. Awarding the fellowship for a 3-year term may prove to be a subjective decision. For example, a student with a scholarship may not publish a single article during the 3 years of study, while another student, who has not received a scholarship, may publish in international journals every year without having the chance to obtain a scholarship. Given that the scholarship should support performance and quality of research, there should be a method of meritocracy evaluation during the 3 years of doctoral studies to which all doctoral students are subject."
 - Diversification of the channels of communication of information to doctoral students, by correlating them with current technologies that are used for this purpose;
 - Optimisation/simplification and digitisation of administrative processes concerning doctoral students and their relationship with the university;
 - Development and proper implementation of an academic writing course;

I am satisfied with the overall doctoral training programme. The faculty has designed and implemented an interesting PhD program in Systems Engineering. The management team has produced interested research results published both at international conferences and in journals. Few weaknesses have been identified that should be addressed to grow the PhD community and produce excellent scientific results.

Budapest, 2021. november 15.

International Evaluator

Dr. habil. Gabor Kiss PhD.



VII. Annexes

Annex 1.

The detailed schedule of the evaluation visit

UNIVERSITĂȚII POLITEHNICA DIN TIMIȘOARA

The institutional evaluation visit - IOSUD / doctoral study domains of the

POLITEHNICA UNIVERSITY OF TIMIȘOARA

Data/ora Date/hour (Bucharest time)	Activitate / Activity	Participanți / Participants	Observații/ Responsabil Observations/ Responsible
EVALUAREA STUDIILOR UNIVERSITARE DE DOCTORAT / DOCTORAL STUDIES EVALUATION			
24 September, 2021 9:00 – 10:00	Întâlnirea echipei de evaluare pentru discutarea principalelor aspecte metodologice legate de activitatea de evaluare a studiilor universitare de doctorat Meeting of panel members for discussing main methodological aspects related to the evaluation of doctoral studies	Toți membrii echipei de evaluare All evaluation panel members	platforma ARACIS ZOOM/ <i>ARACIS ZOOM platform</i>

Programul⁶ vizitei de evaluare instituțională - IOSUD / domeniul de studii universitare de doctorat a
UNIVERSITĂȚII POLITEHNICA DIN TIMIȘOARA

*The timetable of the institutional evaluation visit - IOSUD / doctoral study domains at the
POLITEHNICA UNIVERSITY OF TIMIȘOARA*

Perioada de derulare a vizitei: 27.09.2021 – 1.10.2021

The evaluation period: 27.09.2021 - 1.10.2021

**Evaluarea Externă Periodică a domeniului de studii universitare de doctorat
 Ingineria Sistemelor**

***Periodical External Evaluation of the doctoral study domain Systems
 Engineering***

Intervalul orar / Hour	Activitate / Activity	Participanți / Participants	Observații/ Responsabil Comments/ Responsible
Luni / Monday, 27.09.2021			
09:00 - 09:45	Întâlnire preliminară online pentru pregătirea și armonizarea etapelor de evaluare, în modul mixt, la nivel de domenii de doctorat și IOSUD <i>Online preliminary meeting for the preparation and</i>	Comisia de evaluare IOSUD/domenii <i>IOSUD evaluation panel</i> - toți membrii echipei de evaluare <i>all evaluation panel members</i>	Înregistrare audio-video/ platforma ARACIS ZOOM <i>Audio-video recording /</i> ARACIS ZOOM <i>platform</i>

⁶ În perioada vizitei, pot fi solicitate și alte întâlniri, pentru eventuale clarificări.

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

Intervalul orar / Hour	Activitate / Activity	Participanți / Participants	Observații/ Responsabil Comments/ Responsible
	<i>harmonization of evaluation steps, in hybrid mode, of doctoral study domains and IOSUD</i>		
10:00 - 10:45	<p>Întâlnirea online a comisiei de experți evaluatori cu reprezentanții conducerii universității și ai CSUD</p> <p><i>Online meeting with representatives of the institution and of the Council for Academic Doctoral Studies (CSUD)</i></p>	<p>Comisia de evaluare IOSUD/domenii</p> <p><i>IOSUD/domains evaluation panel</i></p> <p>- toți membrii echipei de evaluare</p> <p><i>all evaluation panel members</i></p> <p>- reprezentanți ai conducerii</p> <p><i>representatives of the University's management</i></p> <p>- reprezentanți ai CSUD și ai școlii/școlilor doctorale</p> <p><i>representatives of the CSUD and of the Doctoral School /Schools</i></p> <p>- persoana de contact IOSUD/domenii</p> <p><i>the contact person for IOSUD / doctoral domains</i></p>	<p>Înregistrare audio-video/ platforma Zoom UPT</p> <p><i>Audio-video recording /</i></p> <p><i>UPT Zoom platform</i></p>
13:00 – 14:00	<p>Activități de evaluare</p> <p><i>Evaluation activities</i></p> <p><u>Domeniu:</u> Întâlnire online a comisiei de evaluare cu studenții doctoranzi</p>	<p>Comisia de evaluare IOSUD</p> <p><i>IOSUD evaluation panel</i></p> <p>- membrii comisiei de experți evaluatori domeniu</p> <p><i>members of domain evaluation panel</i></p>	<p>Înregistrare audio-video/ platforma ARACIS Ciscowebex/ZOOM</p> <p><i>Audio-video recording /ARACIS Ciscowebex / ZOOM platform</i></p>

Intervalul orar / Hour	Activitate / Activity	Participanți / Participants	Observații/ Responsabil Comments/ Responsible
	<i>Domain: Online meeting with PhD students</i>	- studenții doctoranzi <i>PhD students</i>	
14:00 – 15:00	<p>Activități de evaluare <i>Evaluation activities</i></p> <p><u>Domeniu</u>⁷: Întâlnire online a comisiei de experți evaluatori cu responsabilul domeniului de studii universitare de doctorat evaluat și cu echipa care a realizat raportul de evaluare internă</p> <p><i>Domain: Online meeting with the contact person for the doctoral study domain under review and the team who drafted the internal evaluation report</i></p>	<p>Comisia de evaluare domeniu <i>Domain evaluation panel</i></p> <p>-membrii comisiei de experți evaluatori domeniu <i>members of domain evaluation panel</i></p> <p>- responsabilul domeniului de studii universitare de doctorat evaluat și echipa care a realizat raportul de evaluare internă <i>The doctoral studies domain contact person and the team who drafted the internal evaluation report</i></p>	<p>Înregistrare audio-video/platforma <i>Audio-video recording / ... platform</i></p>
	Continuarea activităților de evaluare a domeniilor de studii universitare de doctorat și IOSUD	<p>Comisia de evaluare IOSUD <i>IOSUD evaluation panel</i></p>	Se lucrează separat. ⁸

⁷ Pentru toate întâlnirile din program unde se menționează domeniu, se vor organiza 6 întâlniri în paralel pentru cele 6 domenii de studii universitare de doctorat din componența IOSUD. *For all the timetable meetings where the domain is mentioned, 6 meetings will be organized in parallel for the 6 doctoral university studies domains within IOSUD.*

⁸ În cazul în care se organizează întâlniri suplimentare cu reprezentanții instituției de învățământ superior sau cu alte părți interesate, 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. Dacă 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 orar / Hour	Activitate / Activity	Participanți / Participants	Observații/ Responsabil Comments/ Responsible
	<i>Continuation of the doctoral study domain and IOSUD evaluation activities</i>	- la nivel de IOSUD <i>at IOSUD level</i> - la nivel de domenii de doctorat <i>at doctoral study domain level</i>	<i>Independent evaluation activities.</i>
Marți / Tuesday, 28.09.2021			
	Continuarea activităților de evaluare a domeniilor de studii universitare de doctorat și IOSUD <i>Continuation of the doctoral study domain and IOSUD evaluation activities</i>	Comisia de evaluare IOSUD <i>IOSUD evaluation panel</i> - la nivel de IOSUD <i>at IOSUD level</i> - la nivel de domenii de doctorat <i>at doctoral study domain level</i>	Se lucrează separat. <i>Independent evaluation activities.</i>
10:00 – 11:00	Activități de evaluare <i>Evaluation activities</i> <u>Domeniu:</u> Întâlnire online a comisiei de experți evaluatori cu personalul didactic aferent domeniului evaluat <u>Domain:</u> <i>Online meeting with the academic staff corresponding to the doctoral study domain</i>	Comisia de evaluare domeniu <i>Domain evaluation panel</i> -membrii comisiei de experți evaluatori domeniu <i>members of domain evaluation panel</i> -cadre didactice cu titlul de conducător de doctorat <i>Doctoral coordinators</i>	Înregistrare audio-video/ platforma <i>Audio-video recording / ... platform</i>
11:00 – 12:00	Activități de evaluare <i>Evaluation activities</i>	Comisia de evaluare domeniu <i>Domain evaluation panel</i>	Înregistrare audio-video/ platforma

Intervalul orar / Hour	Activitate / Activity	Participanți / Participants	Observații/ Responsabil Comments/ Responsible
	<p><u>Domeniu:</u> Întâlnire online a comisiei de evaluare cu reprezentanți ai absolvenților domeniului</p> <p><u>Domain:</u> Online meeting with graduates for the respective doctoral study domain</p>	<p>- membrii comisiei de experți evaluatori domeniu <i>members of domain evaluation panel</i></p> <p>- reprezentanți ai absolvenților <i>representatives of doctoral graduates</i></p>	<p><i>Audio-video recording / ... platform</i></p>
	<p>Continuarea activităților de evaluare a domeniilor de studii universitare de doctorat și IOSUD</p> <p><i>Continuation of the doctoral study domain and IOSUD evaluation activities</i></p>	<p>Comisia de evaluare IOSUD <i>IOSUD evaluation panel</i></p> <p>- la nivel de IOSUD <i>at IOSUD level</i></p> <p>- la nivel de domenii de doctorat <i>at doctoral study domain level</i></p>	<p>Se lucrează separat. <i>Independent evaluation activities.</i></p>
16:00 - 17:00	<p>Întâlnire online cu membrii Comisiei de Etică a universității</p> <p><i>Online meeting with the members of the Ethics Commission</i></p>	<p>Comisia de evaluare IOSUD/domenii <i>IOSUD/domains evaluation panel</i></p> <p>- toți membrii echipei de evaluare <i>all evaluation panel members</i></p> <p>-membrii Comisiei de Etică <i>Ethics Commission members</i></p>	<p>Înregistrare audio-video/ platforma Zoom UPT <i>Audio-video recording / UPT Zoom platform</i></p>
17:00 - 17:45	<p>Activități de evaluare <i>Evaluation activities</i></p>	<p>Comisia de evaluare IOSUD <i>IOSUD evaluation panel</i></p> <p>- toți membrii echipei de evaluare</p>	<p>Înregistrare audio-video/ platforma Zoom UPT</p>

Intervalul orar / Hour	Activitate / Activity	Participanți / Participants	Observații/ Responsabil Comments/ Responsible
	<p>Întâlnire online cu membrii Comisiei pentru Evaluarea și Asigurarea Calității (CEAC) / Departamentul de asigurare a calității</p> <p><i>Online meeting with the Commission for Quality Evaluation and Assurance (CEAC) members / Quality Assurance Department</i></p>	<p><i>all evaluation panel members</i></p> <p>- reprezentanți ai CEAC/ Departament AC</p> <p><i>representatives of Commission for Quality Evaluation and Assurance (CEAC) / Quality Assurance Department</i></p>	<p><i>Audio-video recording /</i></p> <p><i>UPT Zoom platform</i></p>
Miercuri/ Wednesday, 29.09.2021			
09:00 - 10:00	<p>Întâlnire tehnică online, pentru identificarea aspectelor specifice care trebuie clarificate, dacă este cazul, pe parcursul vizitei la fața locului</p> <p><i>Online technical meeting to identify specific issues that need to be clarified, if necessary, during the on-site visit</i></p>	<p>Comisia de evaluare IOSUD</p> <p><i>IOSUD evaluation panel</i></p> <p>- toți membrii echipei de vizită</p> <p><i>all evaluation panel members</i></p>	<p>Înregistrare audio-video/ platforma ZOOM ARACIS</p> <p><i>Audio-video recording / ARACIS Zoom platform</i></p>
10:00 - 16:00	<p>Reuniuni de lucru față în față⁹, vizitarea bazei materiale didactice și de cercetare</p> <p><i>Face-to-face working meetings, visiting the educational and research infrastructure</i></p>	<p>- coordonatorul de domeniu, un student doctorand evaluator</p> <p><i>the Domain coordinator evaluation panel, one student</i></p> <p>- reprezentanți ai universității</p> <p><i>university's representatives</i></p>	<p>Vizită UNIVERSITATE</p> <p><i>Site visit to the university</i></p>

⁹ 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.*

Intervalul orar / Hour	Activitate / Activity	Participanți / Participants	Observații/ Responsabil Comments/ Responsible
Joi/ Thursday, 30.09.2021			
16:00 - 16:45	Activități de evaluare <i>Evaluation activities</i> <u>IOSUD și Domenii</u> : Întâlnire online cu directorii/ responsabilii centrelor/ laboratoarelor de cercetare aferente domeniilor de studii universitare de doctorat <u>IOSUD and Domains</u> : Online meeting with the Directors/ persons in charge of the research centers/laboratories within the doctoral study domains	Comisia de evaluare IOSUD și domeniilor <i>IOSUD and Domains evaluation panels</i> - toți membrii echipei de evaluare <i>all evaluation panel members</i> -directorii centrelor / laboratoarelor de cercetare <i>directors of research centers/ laboratories</i>	Înregistrare audio-video/ platforma Zoom UPT <i>Audio-video recording /</i> <i>UPT Zoom platform</i>
18:00 – 19:00	Activități de evaluare <i>Evaluation activities</i> <u>Domeniu</u> : Întâlnire online a comisiei de evaluare cu reprezentanți ai angajatorilor absolvenților domeniului <u>Domain</u> : Online meeting with employers of Doctoral graduates in the domain	Comisia de evaluare domeniu <i>Domain evaluation panel</i> - membrii comisiei de experți evaluatori domeniu <i>members of domain evaluation panel</i> - reprezentanți ai angajatorilor <i>employers' representatives</i>	Înregistrare audio-video/ platforma <i>Audio-video recording / platform</i>
Vineri / Friday, 1.10.2021			
09:00 - 11:00	Finalizarea documentelor	Comisia de evaluare IOSUD	Se lucrează separat.

Intervalul orar / Hour	Activitate / Activity	Participanți / Participants	Observații/ Responsabil Comments/ Responsible
	<i>Completion of the evaluation documents</i>	<i>IOSUD evaluation panel</i> - la nivel de IOSUD <i>at IOSUD level</i> - la nivel de domenii de doctorat <i>at doctoral study domain level</i>	<i>Independent evaluation activities.</i>
11:00 - 11:45	Întâlnire online pentru concluzii <i>Online meeting for conclusions</i>	Comisia de evaluare IOSUD <i>IOSUD evaluation panel</i> - toți membrii echipei de evaluare <i>all evaluation panel members</i>	Înregistrare audio-video/ platforma ZOOM ARACIS <i>Audio-video recording /ARACIS ZOOM platform</i>
12:00 - 12:45	Întâlnire finală online în vederea prezentării principalelor constatări rezultate în urma evaluării IOSUD și a recomandărilor de îmbunătățire a calității <i>Meeting with representatives of the institution under review to discuss on the conclusions of the evaluation process and the main recommendations</i>	Comisia de evaluare IOSUD <i>IOSUD evaluation panel</i> - toți membrii echipei de evaluare <i>all evaluation panel members</i> - reprezentanții universității <i>university's representatives</i>	Înregistrare audio-video/ platforma Zoom UPT <i>Audio-video recording / UPT Zoom platform</i>

Budapest, 2021. november 15.

International Evaluator

Dr. habil. Gabor Kiss PhD.



Annex 1.

The survey questionnaire applied to doctoral students or academic staff in the doctoral study domain under review

Chestionar privind gradul de satisfacție al studenților doctoranzi din cadrul Universității Politehnica Timișoara - Ingineria Sistemelor

*Required

1. În ce an de studii sunteți înmatriculat? *

Mark only one oval.

- I
- II
- III
- IV
- Prelungire studii (IV sau V)
- Grație (VI sau VII)

2. În ce măsură aveți acces în mod gratuit, la cerere, la un sistem electronic de verificare a gradului de similitudine a lucrărilor științifice/ tezei de doctorat cu alte creații științifice sau artistice existente? *

Mark only one oval.

- În foarte mare măsură
- În mare măsură
- Într-o măsură medie
- În mică măsură
- Deloc

3. În ce măsură aveți acces la laboratoare/spații de cercetare sau alte facilități din cadrul UPT, respectiv centre de cercetare/unități experimentale pentru desfășurarea activității de cercetare? *

Mark only one oval.

- În foarte mare măsură
- În mare măsură
- Într-o măsură medie
- În mică măsură
- Deloc

4. În ce măsură v-a fost facilitat accesul la baze de date internaționale pentru consultarea unor surse bibliografice în domeniu, în mod gratuit? *

Mark only one oval.

- În foarte mare măsură
- În mare măsură
- Într-o măsură medie
- În mică măsură
- Deloc

5. În ce măsură v-a fost facilitat accesul la agenți economici/ institute de cercetare pentru realizarea cercetărilor în colaborare cu acestea? *

Mark only one oval.

- În foarte mare măsură
- În mare măsură
- Într-o măsură medie
- În mică măsură
- Deloc

6. Ați avut posibilitatea să participați într-un schimb de mobilitate/ alte stagii de mobilitate pe durata studiilor doctorale? *

Mark only one oval.

- În foarte mare măsură
- În mare măsură
- Într-o măsură medie
- În mică măsură
- Deloc

7. În ce măsură ați fost sprijinit financiar de către UPT pentru participarea la conferințe internaționale sau publicări în jurnale științifice cotate internațional? *

Mark only one oval.

- În foarte mare măsură
- În mare măsură
- Într-o măsură medie
- În mică măsură
- Deloc

8. În ce măsură considerați că disciplinele de specialitate cuprinse în Programul de pregătire universitară avansată sunt relevante pentru cercetările întreprinse în calitate de student doctorand și pentru teza dvs. de doctorat? *

Mark only one oval.

- În foarte mare măsură
- În mare măsură
- Într-o măsură medie
- În mică măsură
- Deloc

9. În ce măsură considerați că disciplina "etică și integritate academică" este relevantă pentru cercetarea dvs. și elaborarea tezei de doctorat, prezentând noțiuni noi față de cele însușite pe parcursul studiilor de masterat? *

Mark only one oval.

- În foarte mare măsură
- În mare măsură
- Într-o măsură medie
- În mică măsură
- Deloc

10. În ce măsură considerați necesară introducerea unui curs de scriere academică (spre exemplu, pentru întocmirea rapoartelor de cercetare, realizarea articolelor științifice, scrierea de proiecte pentru finanțare din granturi naționale sau internaționale etc.)? *

Mark only one oval.

- În foarte mare măsură
- În mare măsură
- Într-o măsură medie
- În mică măsură
- Deloc

11. În ce măsură beneficiați de sprijin financiar pentru activitatea științifică și/sau didactică pe care o realizați în calitate de student doctorand (exceptând bursa doctorală de la bugetul de stat, acolo unde este cazul)? *

Mark only one oval.

- În foarte mare măsură
- În mare măsură
- Într-o măsură medie
- În mică măsură
- Deloc

12. În ce măsură beneficiați de sprijinul membrilor comisiei de îndrumare pentru activitatea dvs. de cercetare și realizarea tezei de doctorat (întâlniri online, întrevederi onsite, comunicare asincronă)? *

Mark only one oval.

- În foarte mare măsură
- În mare măsură
- Într-o măsură medie
- În mică măsură
- Deloc

13. În ce măsură considerați că procesul de avansare în carieră este unul transparent și obiectiv? *

Mark only one oval.

- În foarte mare măsură
- În mare măsură
- Într-o măsură medie
- În mică măsură
- Deloc

14. Care sunt așteptările dvs. la finalizarea studiilor de doctorat? *



15. Care sunt aspectele pe care le-ați schimba/îmbunătăți în cadrul Școlii Doctorale în care activați? De asemenea, vă invităm să menționați dacă sunt și alte aspecte privind studiile de doctorat care nu au fost cuprinse în întrebările anterioare ...

This content is neither created nor endorsed by Google.

Google Forms