

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.).

The present External Evaluation Report is based on the Internal Evaluation Report on the Domain of doctoral studies in Mathematics provided by the West University of Timisoara, several online meetings with employers' representatives, members of the school council / doctoral schools (CSD) members, PhD students, PhD supervisors, old graduate students, etc. Due to the present COVID-19 scenario, it was not possible for the external evaluator to visit the Department / University. There are three Expert Committee members for Mathematics, namely, Prof. Univ. Dr. Vasile Berinde (internal), Prof. Dr. Qamrul Hasan Ansari (External) (My self) and Munteanu Constatin (PhD student).

The Doctoral School of Mathematics (DSM) falls under the Faculty of Mathematics and Computer Science at the West University of Timisoara (WUT) with a long history and achievements of the doctoral supervisors. During the period 2000-2012, 109 PhDs were awarded in Mathematics, while 21 PhDs were awarded in the period 2013-present. It is a remarkable achievement of the Doctoral School of Mathematics at WUT. At present, there are 10 doctoral supervisors in the Doctoral School of Mathematics at WUT. Some of them are World widely known and have the record of high quality of research publication.

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



Out of 10 PhD supervisors, 9 meet the CNATDCU minimum standard. There are 20 PhD students out of which half of the students get budget scholarship. They are involved in current and hot topics within the mathematics field and are used to participate in international conferences.

The DSM has a mission to train new generation of researchers with the sprit of high quality and performance. The Doctoral School of Council (DSC) ensures the quality of the research. The doctoral students follow specific courses in Ethics, academic integrity and academic writing. Most the PhD supervisors encourage their PhD students to publish their work in SCI journals.

With a very high mission and vision, the Doctoral School of Mathematics has modern and well equipped laboratories and computing facilities. As earlier said, some of PhD advisors are renowned researchers. They have wide specturum of research area and working in the current / hot topics in mathematics.

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.

We used the prescribed format and method of evaluation provided by the ARACIS. It is based on the Internal Evaluation Report and several online meetings with employers' representatives, members of the school council / doctoral schools (CSD) members, PhD students, PhD supervisors, old graduate students, etc. Due to the present COVID-19 senero, it was not possible for the external evatulator to visit the Department / University.

During the discussion with several online meetings, all present students and past students were very much satisfied with the facilities provided by the university. No old / current PhD student had any complaint about the facilities in the university. All of the students are very much satisfied with their PhD advisors and their attitude towards the research topic and research problems.

III. Analysis of ARACIS's performance indicators

Domain A. INSTITUTIONAL CAPACITY

**general description of domain analysis.*

The West University of Timisoara has its own reputation and credentials, specially in the field of Mathematics and Computer Science. There are several renowned professors in these fields of PhD programs. The Doctoral School of Mathematics has the Regulation of Organization and Functioning which is drawn according to the National Education Law and approved by the Council of Doctoral Studies

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

**general description of the criterion analysis.*

The West University of Timisoara has its own regulations, methodologies and procedures developed in accordance with national regulations and legislation. It is very well organized.

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

**general description of the standard analysis.*



The Doctoral School Regulations, Methodologies for conducting elections for the position of CSUD director as well as for the election of representatives students, Methodologies for organizing and conducting doctoral studies, Admission to doctoral studies, Completion of doctoral studies, Existence of mechanisms for recognizing the doctoral supervisor quality, Functioning management structures, Contract of doctoral studies, etc, are framed according to the national policy. The IOSUD of WUT is coordinated by a Council of Doctoral Studies.

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

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

Recommendations:

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.*

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

Recommendations:

The indicator is fulfilled.

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



**general description of the standard analysis.*

The WUT has several convergent platforms to support the record of doctoral students, namely, University Management System (UMS), Unique Matriculation Register (RMU), Integrated Educational Register (REI), etc. The WUT also has several softwares for analyzing textual similarity, namely, iThenticate software.

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

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

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

Recommendations:

The indicator is fulfilled.

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

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

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

Recommendations:

The indicator is fulfilled.

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

**general description of the standard analysis.*

It seems that almost half of the PhD students get budget scholarship from government funding agency. At least 8 PhD students are member of some national / international projects and get scholarship from their projects.

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

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



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

Recommendations:

The indicator is fulfilled.

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

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

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

Recommendations:

The indicator is fulfilled.

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 in the paid tuition system is used to reimburse professional training expenses of doctoral students (attending conferences, summer schools, training, programs abroad, publication of specialty papers or other specific forms of dissemination etc.).*

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

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

Recommendations:

The indicator is fulfilled.

Criterion A.2. Research infrastructure

**general description of the criterion analysis.*

The WUT has a Department of Scientific Research and University Creation which is available for all PhD students. All PhD students of Doctoral School of Mathematics have access to computers, network printer, scanner, video projector, bibliographical resources in electronic format, etc. The WUT provides learning resources through the resources offered by the Central University Library. Besides these modern facilities, all PhD students enjoy the scientific seminars. The Doctoral School of Mathematics also has well equipped seminar room for workshops, conferences guest lectures, etc.

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 evaluation. In case they are not met, the Agency extends a period of maximum 3 years to IOSUD to correct the respective deficiencies.



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

**general description of the standard analysis.*

All PhD students enjoy the modern facilities available in the form of excellent computing facilities, printing and scanning facilities, video graphics facilities, etc.

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

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

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

Recommendations:

The indicator is fulfilled.

Criterion A.3. Quality of Human Resources

**general description of the criterion analysis.*

There are 10 doctoral supervisors out of which 9 meets the minimum CNATDCU standards and also all 3 standard required by the law. Only one doctoral supervisor does not meet one of the standards.

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

**general description of the standard analysis.*

There are sufficient well qualified staffs to ensure the conduct of doctoral study program as mentioned in the internal evaluation report.

Performance Indicator A.3.1.1. *Minimum three doctoral thesis advisors within that doctoral domain, and at least 50% of them (but no less than three) meet the minimum standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) in force at the time when the evaluation is carried out, which standards are required and mandatory for obtaining the enabling certification.*

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



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

Recommendations:

The indicator is fulfilled.

Performance Indicator *A.3.1.2. At least 50% of all doctoral advisors have a full-time employment contract for an indefinite period with the IOSUD.

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

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

Recommendations:

The indicator is fulfilled.

Performance Indicator A.3.1.3. The study subjects in the education program based on advanced higher education studies pertaining to the doctoral domain are taught by teaching staff or researchers who are doctoral thesis advisors / certified doctoral thesis advisors, professors / CS I or lecturer / CS II, with proved expertise in the field of the study subjects they teach, or other specialists in the field who meet the standards established by the institution in relation with the aforementioned teaching and research functions, as provided by the law.

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

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

Recommendations:

The indicator is fulfilled.

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%.

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

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

Recommendations:

The indicator is fulfilled.

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.



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

**general description of the standard analysis.*

All PhD supervisors published at least 5 research papers in SCI journals. The international visibility of all the PhD supervisors reflects from their participation in international conferences / workshops in the form of invited talks in international conferences, membership of international scientific committees of international conferences, membership of international scientific societies, etc.

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.*

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

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

Recommendations:

The indicator is fulfilled.

Performance Indicator *A.3.2.2. *At least 50% of the doctoral thesis advisors in a specific doctoral study domain continue to be active in their scientific field, and acquire at least 25% of the score requested by the minimal CNATDCU standards in force at the time of the evaluation, which are required and mandatory for acquiring their enabling certificate, based on their scientific results within the past five years.*

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

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

Recommendations:

The indicator is fulfilled.

Domain B. EDUCATIONAL EFFECTIVENESS

**general description of domain analysis.*



During the PhD course, all students, under the coordination of scientific leaders, develop the skill to publish their work as scientific research publication in WOS / ISI, BDI journals. The PhD supervisors encourage to all PhD students to participate and to present their research work in national / international conference / workshops.

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

**general description of the criterion analysis.*

It seems that there is a diversity among the PhD candidates. However, at least 25% of the PhD students are having master's degree from WUT.

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

**general description of the standard analysis.*

There are many students from out the WUT to try to get the admission in PhD in WUT because of its reputation, specially, in the field of Mathematics and Computer Science.

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

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

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

Recommendations:

The indicator is fulfilled.

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

**general description of the standard analysis.*

The admission in PhD program is based on academic, research and professional performance, interest in scientific research and topic. The admission procedure is based on an oral test / interview.

Performance Indicator *B.1.2.1. *Admission to doctoral study programs is based on selection criteria including: previous academic, research and professional performance, their interest for scientific or*



arts/sports research, publications in the domain and a proposal for a research subject. Interviewing the candidate is compulsory, as part of the admission procedure.

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

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

Recommendations:

The indicator is fulfilled.

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%.

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

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

Recommendations:

The indicator is fulfilled.

Criterion B.2. The content of doctoral programs

**general description of the criterion analysis.*

The training programme is based on advanced academic studies.

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

**general description of the standard analysis.*

PhD advisors give some scientific research training to their doctoral students.

Performance Indicator B.2.1.1. The training program based on advanced academic studies includes at least 3 disciplines relevant to the scientific research training of doctoral students; at least one of these disciplines is intended to study in-depth the research methodology and/or the statistical data processing.

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

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

Recommendations:

The indicator is fulfilled.

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.

Performance Indicator B.2.1.2. *At least one discipline is dedicated to Ethics and Intellectual Property in scientific research or there are well-defined topics on these subjects within a discipline taught in the doctoral program.*

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

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

Recommendations:

The indicator is fulfilled.

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.*

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

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

Recommendations:

The indicator is fulfilled.

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

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

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

Recommendations:

The indicator is fulfilled.

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

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

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

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.



Recommendations:

The indicator is fulfilled.

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

**general description of the criterion analysis.*

According to the Internal Evaluation Report, at least one article relevant to the scientific achievements is required, mainly in SCI journals. During the last five years (duration of evaluation), 10 doctoral students defended their theses and presented 39 research papers in international conferences.

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

**general description of the standard analysis.*

During the evaluation period, 10 PhD students defended their theses and presented their work in 39 international conferences.

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

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

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

Recommendations:

The indicator is fulfilled.

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

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

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

Recommendations:

The indicator is fulfilled.



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

**general description of the standard analysis.*

During the evaluation period, 10 doctoral theses have been defended and recognized specialists in the field participated in the public defence committees of the doctoral theses.

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

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

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

Recommendations:

The indicator is fulfilled.

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

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

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

Recommendations:

The indicator is fulfilled.

Domain C. QUALITY MANAGEMENT

**general description of domain analysis.*

The WUT has a system to monitor internal quality assurance.

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

**general description of the criterion analysis.*

IOSUD-UVT (West University of Timisoara) has developed and periodically applies a procedure for evaluation and internal monitoring of the doctoral schools. The WUT evaluates the scientific activities



of doctoral supervisors, infrastructure and logistics for research, regulations and procedures based on doctoral studies, scientific activities of doctoral students, training programmes, social and academic support services and counseling. In 2018, the Doctoral School of Mathematics conducted a Self-Assessment Report with reference to specific quality indicators. Following this self-assessment, a series of measures were taken to increase the quality of research.

Standard C.1.1. There are an institutional framework and procedures in place and relevant internal quality assurance policies, applied for monitoring the internal quality assurance.

**general description of the standard analysis.*

IOSUD-UVT (West University of Timisoara) has developed and periodically applies a procedure for evaluation and internal monitoring of the doctoral schools. The WUT evaluates the scientific activities of doctoral supervisors, infrastructure and logistics for research, regulations and procedures based on doctoral studies, scientific activities of doctoral students, training programmes, social and academic support services and counseling.

Performance Indicator C.1.1.1. The Doctoral school in the respective university study domain shall demonstrate the continuous development of the evaluation process and its internal quality assurance following a procedure developed and applied at the level of the IOSUD, the following assessed criteria being mandatory:

- (a) the scientific work of Doctoral advisors;
- (b) the infrastructure and logistics necessary to carry out the research activity;
- (c) the procedures and subsequent rules based on which doctoral studies are organized;
- (d) the scientific activity of doctoral students;
- (e) the training program based on advanced academic studies of doctoral students;
- (f) social and academic services (including for participation at different events, publishing papers etc.) and counselling made available to doctoral students.

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

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

Recommendations:

The indicator is fulfilled.

Performance Indicator *C.1.1.2. Mechanisms are implemented during the stage of the doctoral study program to enable feedback from doctoral students allowing to identify their needs, as well as their overall level of satisfaction with the doctoral study program in order to ensure continuous improvement of the academic and administrative processes. Following the analysis of the results, there is evidence that an action plan was drafted and implemented.

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

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



Recommendations:

The indicator is fulfilled.

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

**general description of the criterion analysis.*

Without transparency of information and accessibility of learning resources no institution can grow and establish its reputation. It should contain the procedure to induct PhD students, their topics, and abstract of theses, etc. All such criterion are followed by the Doctoral School of Mathematics in particular and WUT in general.

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

**general description of the standard analysis.*

It is very important to upload the PhD theses of the PhD students on the website of the university or the department. A web page dedicated to doctoral studies is available which includes content of study programs, scientific profile and thematic areas / research topics of the PhD supervisors, a list of doctoral students.

Performance Indicator C.2.1.1. *The IOSUD publishes on the website of the organizing institution, in compliance with the general regulations on data protection, information such as:*

- (a) the Doctoral School regulation;*
- (b) the admission regulation;*
- (c) the doctoral studies contract;*
- (d) the study completion regulation including the procedure for the public presentation of the thesis;*
- (e) the content of training program based on advanced academic studies;*
- (f) the academic and scientific profile, thematic areas/research themes of the Doctoral advisors within the domain, as well as their institutional contact data;*
- (g) the list of doctoral students within the domain with necessary information (year of registration; advisor);*
- (h) information on the standards for developing the doctoral thesis;*
- (i) links to the doctoral theses' summaries to be publicly presented and the date, time, place where they will be presented; this information will be communicated at least twenty days before the presentation.*
 - description of the facts, the findings from the assessed institution's documents and the evaluation visit itself*
 - analysis of the facts, the findings from the assessed institution's documents and the evaluation visit itself*

Recommendations:

The indicator is fulfilled.



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

**general description of the standard analysis.*

As mentioned in Internal Evaluation report, all PhD students can access to the resources required to successfully complete the doctoral programme.

Performance Indicator C.2.2.1. All doctoral students have free access to one platform providing academic databases relevant to the doctoral studies domain of their thesis.

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

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

Recommendations:

The indicator is fulfilled.

Performance Indicator C.2.2.2. Each doctoral student shall have access, upon request, to an electronic system for verifying the degree of similarity with other existing scientific or artistic works.

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

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

Recommendations:

The indicator is fulfilled.

Performance Indicator C.2.2.3. All doctoral students have access to scientific research laboratories or other facilities depending on the specific domain/domains within the Doctoral School, according to internal order procedures.

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

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

Recommendations:

The indicator is fulfilled.

Criterion C.3. Internationalization

**general description of the criterion analysis.*

The WUT has developed Erasmus programs for the mobility of the PhD students and PhD supervisors to visit foreign universities. Besides this program, there are also several international project in Mathematics under which PhD supervisors and their PhD students are working. Under such projects,



one can visit to a other university abroad. A large number of PhD students also participate and present their works in international conferences / workshops.

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

**general description of the standard analysis.*

More than 40% PhD students either participated in training program or international conferences or workshops abroad. Several doctoral students have several eminent mathematician abroad as their mentor.

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

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

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

Recommendations:

The indicator is fulfilled.

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

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

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

Recommendations:

The indicator is 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.).*

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



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

Recommendations:

The indicator is fulfilled.

IV. SWOT Analysis

<p><u>Strengths:</u></p> <ul style="list-style-type: none"> - Doctoral supervisors are very good in their field of specializations. WUT has good computing facilities that helps to PhD students to carry out their work. 	<p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> - Poor funding for Doctoral students - Very low research grant - Very less number of foreign PhD students
<p><u>Opportunities:</u></p> <ul style="list-style-type: none"> - Can attract foreign PhD students. - Can have several MoUs with other universities abroad - Can have some exchange program within Romania and abroad 	<p><u>Threats:</u></p> <ul style="list-style-type: none"> - No threat

V. Overview of judgments awarded and of the recommendations

No.	Type of indicator (*, C)	Performance indicator	Judgment	Recommendations
1.		A.1.1.1	Satisfied	
2.		A.1.1.2	Satisfied	
3.		A.1.2.1	Satisfied	
4.		A.1.2.2	Satisfied	
5.		A.1.3.1	Satisfied	
6.	*	A.1.3.2	Satisfied	
7.	*	A.1.3.3	Satisfied	
8.	C	A.2.1.1	Satisfied	
9.	C	A.3.1.1	Satisfied	
10.	*	A.3.1.2	Satisfied	
11.		A.3.1.3	Satisfied	
12.	*	A.3.1.4	Satisfied	
13.	C	A.3.2.1	Satisfied	
14.	*	A.3.2.2	Satisfied	
15.	*	B.1.1.1	Satisfied	

16.	*	B.1.2.1	Satisfied	
17.		B.1.2.2	Satisfied	
18.		B.2.1.1	Satisfied	
19.		B.2.1.2	Satisfied	
20.		B.2.1.3	Satisfied	
21.		B.2.1.4	Satisfied	
22.	C	B.2.1.5	Satisfied	
23.	C	B.3.1.1	Satisfied	
24.	*	B.3.1.2	Satisfied	
25.	*	B.3.2.1	Satisfied	
26.	*	B.3.2.2	Satisfied	
27.		C.1.1.1	Satisfied	
28.	*	C.1.1.2	Satisfied	
29.	C	C.2.1.1	Satisfied	
30.		C.2.2.1	Satisfied	
31.		C.2.2.2	Satisfied	
32.		C.2.2.3	Satisfied	
33.	*	C.3.1.1	Satisfied	It is recommended to attract foreign PhD students
34.		C.3.1.2	Satisfied	
35.		C.3.1.3	Satisfied	

VI. Conclusions and general recommendations

All the indicators mentioned above are satisfied. There is a need to admit more PhD students as there are enough high quality PhD supervisors in the department. All present PhD students and old PhD students have complaint that the financial support in the form of scholarship is very low. Therefore, it should be increased. The WUT can also try to have some MoUs from other universities abroad so that the doctoral supervisors and their PhD students can have some international collaboration.

VII. Annexes

The following types of documents shall be attached:

- *The detailed schedule of the evaluation visit – MANDATORY.*



- *Scanned documents – any document requested from the IOSUD during the evaluation visit and received, which is not found in the internal evaluation file received before the visit and referred to in the report.*