

# **The External Evaluation Report of the Chemistry Doctoral Study Domain University of Bucharest**

**Preliminary report by  
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<b>I. Introduction</b>	<b>2</b>
<i>I.1 The evaluation</i>	2
<i>I.1 The Doctoral school in chemistry</i>	2
<b>II. Methods used</b>	<b>5</b>
<b>III. Analysis of ARACIS's performance indicators</b>	<b>6</b>
<i>Domain A. INSTITUTIONAL CAPACITY</i>	6
Criterion A.1. The administrative, managerial institutional structures and the financial resources	6
Criterion A.2. Research infrastructure	12
Criterion A.3. Quality of Human Resources	12
<i>Domain B. EDUCATIONAL EFFECTIVENESS</i>	16
Criterion B.1. The number, quality and diversity of candidates enrolled for the admission contest	16
Criterion B.2. The content of doctoral programs	18
<i>Domain C. QUALITY MANAGEMENT</i>	23
Criterion C.1. Existence and periodic implementation of the internal quality assurance system	23
Criterion C.2. Transparency of information and accessibility of learning resources	25
Criterion C.3. Internationalization	27
<b>IV. SWOT Analysis</b>	<b>30</b>
<b>V. Overview of judgments awarded and of the recommendations</b>	<b>31</b>
<b>VI. Conclusions and general recommendations</b>	<b>33</b>
<b>VII. Annexes</b>	<b>34</b>
<i>VII.1. Annex: Detailed schedule of the visit</i>	34



## **I. Introduction**

### **I.1 The evaluation**

The report includes the findings and conclusions obtained by the International Expert during the online evaluation of the Chemistry Domain in the PhD school at University of Bucharest (UB). The online meetings took place between November 17<sup>th</sup> and November 26<sup>th</sup>, with detailed schedule shown in [VII.1. Annex: Detailed schedule of the visit](#)

The expert's committee was composed by

- Professor Dr. Aurel Pui – University “Al. I. Cuza”, Iasi;
- Ms. Bianca Cernușcă, PhD student in Chemistry at the West University of Timișoara; and
- Professor Jordi Villà Freixa – Universitat de Vic – Universitat Central de Catalunya, Spain;

As for the international expert, he was unable to attend several of the online meetings due to teaching commitments at the university, so his opinion is mainly based on the documentation provided, in particular the extremely well presented self evaluation report (SER), and the information received by the coordinator professor Aurel Pui.

### **I.1 The Doctoral school in chemistry**

The University of Bucharest has a long tradition in doctoral studies, and it is indeed in this university where the first doctorate was awarded in Romania by a university, back in 1905 at the Faculty of Letters and Philosophy.

By Law 288/2004 and then by GD no. 567/2005 the transition to the organization of doctoral university studies within some doctoral schools was established.

Currently, there are 22 doctoral schools within the University of Bucharest in which 19 fields are managed. National education law no. 1/2011 and the code of doctoral university studies adopted by GD no. 681/2011 further regulated the organization of doctoral studies, both by establishing the Council for Doctoral Studies at IOSUD and by provisions to clarify the operation of doctoral schools, including the structure of the doctoral program, and to strengthen quality assurance by limiting the number of doctoral students per leader and by setting up steering committees. The new legal provisions were incorporated in an institutional regulation for the organization and functioning of doctoral university study programs, adopted by the Senate of the UB in 2012 and updated several times since then

The Doctoral School in Chemistry (ȘDCh) was organized based on GD no. 567/2005.

<sup>1</sup> The ȘDCh, coordinated by the Doctoral School Council and represented by the director of the doctoral school, operates within the Faculty of Chemistry of the UB.<sup>2</sup>

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<sup>1</sup> <https://www.chimie.unibuc.ro/index.php/departamente/477-coala-doctoral>

<sup>2</sup>

<https://chimie.unibuc.ro/index.php/dept-scoala-doctorala-in-chimie/193-regulamentul-scolii-doctorale-in-chimie>



The Chief Secretary of the faculty, Mrs. Cornelia Floroiu, is responsible for the organization and management of the programs of the doctoral students enrolled within the Doctoral School in Chemistry. The Doctoral School Council is composed by

- Prof. Dr. Camelia Bala - director
- prof. habil. Dr. Simona-Margareta Coman, Faculty of Chemistry
- acad. Ionel Haiduc, Romanian Academy
- acad. Prof. Dr. Cristian Sorin Silvestru, Babeş Bolyai University, Cluj-Napoca
- drd. Apostle Adrian-Alexandru, Faculty of Chemistry

The elections at the level of the Doctoral School were carried out according to the Institutional Regulation, both for professors and students.<sup>3</sup>

Admission to the PhD program<sup>4</sup> consists in presenting the previous research activity (bachelor, master, etc.) and the chosen doctoral research topic. The evaluation and selection of candidates enrolled in the competition for admission to doctoral studies is made in relation to:

1. the quality of the presentation of previous research and research topic doctoral degree;
2. the ability to support the topic of doctoral research;
3. the previous academic and scientific results of the candidate.

The Doctoral School of Chemistry Regulations<sup>5</sup> provides the ways in which:

- new leading doctoral members are accepted;
- regulations regarding the way in which a doctoral supervisor can be withdrawn as a member of the doctoral school are those adopted at IOSUD level;
- the decision-making mechanisms regarding the appropriateness, structure and content of the training program based on advanced university studies;
- ways to change the doctoral supervisor and procedures for mediating possible conflicts;
- the conditions under which the doctoral program may be interrupted;
- ways to prevent fraud in scientific research and access to research resources.

The following research directions are in place:

- Inorganic chemistry (acad. Prof. CS and Dr. Marius Andruh and Prof. Dr. habil. Viorel Circu)
- Analytical chemistry (Prof. Dr. Andrei -Valentin Medvedovici, Prof. CS 1 Dr. Victor David, Prof. Dr. Camelia Bala, Prof. Dr. Irinel Adriana Badea)
- Catalysis and Technological Chemistry (prof. CS I dr. Vasile Pârvulescu, Prof. Dr. habil. Simona Coman, prof. Dr. habil. John Caesar Mark)
- Organic chemistry (Prof. Dr. habil. Petre Ioniță)
- Physical chemistry

All professors of the Faculty of Chemistry represented in this field meet the CNADTCU standards in force.

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<sup>3</sup>

<https://www.chimie.unibuc.ro/index.php/dept-scoala-doctorala-in-chimie/1171-scoala-doctorala-in-chimie-alegeri-2016>

<sup>4</sup> <https://www.chimie.unibuc.ro/index.php/admitere-la-doctorat>

<sup>5</sup> <https://www.chimie.unibuc.ro/index.php/dept-scoala-doctorala-in-chimie>



The UB appears for the first time for the field of ENGINEERING, CHEMICAL, in the top 500 universities according to Shanghai Ranking's Global Ranking of Academic Subjects-2019, as well as in other high profile international rankings.

Both the chemistry domain and the doctoral studies as a whole in the University are under a professional and efficient quality assurance structure.



## **II. Methods used**

The evaluation panel for the Chemistry domain participated in all online meetings organized by the commission at the University of Bucharest. As for the international expert, due to teaching commitments, he had less opportunities to interact with the different teams at the university, and the conclusions in this report come from the reading of the documentation provided both in the self evaluation report (SER) and in individual contacts with the rest of the team and the coordinators of the evaluation at ARACIS and the University of Bucharest.

Thus, this report is essentially ground on the information provided in the SER, which is concise and complete with respect to the needed evaluation.

As stated in Section [...in VII.1. Annex: Detailed schedule of the visit](#), the meetings were organized by the commission with the several stakeholders of the chemistry doctoral study domain:

1. Doctoral students,
2. Graduates,
3. School officials,
4. Doctoral advisors,
5. Employers and centers,
6. Representatives of the Doctoral School, the Quality Assessment and Assurance Commission, the Quality Department and the Ethics Commission.



### **III. Analysis of ARACIS's performance indicators**

#### **Domain A. INSTITUTIONAL CAPACITY**

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

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

**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*

#### **Description**

The specific regulations of CSUD and the Doctoral School exist and are applied within IOSUD.

- a. Regulations of the Doctoral School of Chemistry<sup>6</sup> were developed by the doctoral school council, by consulting all doctoral supervisors members of our doctoral school, in compliance with the Institutional Regulation and voted positively according to such regulations.
- b. Election methodology at the level of doctoral schools is provided by The institutional regulation<sup>7</sup>

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<sup>6</sup>

<https://chimie.unibuc.ro/index.php/dept-scoala-doctorala-in-chimie/193-regulãntul-scolii-doctorale-in-chimie>

<sup>7</sup><https://doctorat.unibuc.ro/studii-universitare-de-doctorat-incepand-cu-of2011/regulamente-si-metodologii>



- c. Methodologies for organizing and conducting doctoral studies are regulated by the CSUD and approved by the University Senate. These are public by posting on the Doctorate page of the university
- d. Mechanisms for recognizing the quality of doctoral supervisor<sup>8</sup> and doctoral equivalence obtained in other states<sup>9</sup> are regulated by the Senate of the University and are published on the dedicated website;
- e. Functional management structures. [Doctoral School Council in Chemistry](#) works in accordance with Regulations for doctoral studies at the University of Bucharest and Doctoral School of Chemistry Regulations. Minutes of Meetings Council of the doctoral school in Chemistry are addressed to the Faculty Secretariat.
- f. Doctoral university contract is approved annually by the university Senate and is available to doctoral students<sup>10</sup>

g) Internal procedures for analysis and approval of proposals on the subject of the training program based on doctoral studies are regulated by Doctoral School of Chemistry Regulations. Doctoral studies in chemistry are organized through two components:

- a training program based on advanced university studies (30 ECTS; takes place in the first year for a maximum of 12 weeks) and
- a scientific research program.

## Analysis

Based in the facts and after the online meetings and the reading of the documentation, it was made clear that the Chemistry Domain and the doctoral school works within the proper regulatory framework.

## 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.***

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<sup>8</sup> <https://doctorat.unibuc.ro/proceduri-pentru-recunoasterea-calitatii-de-conducator-de-doctorat/>

<sup>9</sup> <https://doctorat.unibuc.ro/proceduri-pentru-recunoasterea-titlului-de-doctor/>

<sup>10</sup> <https://www.chimie.unibuc.ro/index.php/admitere-la-doctorat/259-admitere-doctorat-2020/2224-contracte-de-studii-de-doctorat-phd-contract-2020-2021>



## **Description**

The Doctoral School of Chemistry Regulations complies with the Code of doctoral studies, approved by Government Decision no. 681/2011, art. 17, para. (5).

The regulations of the Doctoral School in Chemistry specify at:

- a. art (6) and (7) the manner in which new doctoral supervisors are accepted and the manner in which a doctoral supervisor may be revoked as a member of the doctoral school;
- b. art (11) the mechanisms by which decisions are taken regarding the appropriateness, structure and content of the training program based on advanced university studies;
- c. art (17) the ways to change the doctoral supervisor and the procedures for mediating possible conflicts;
- d. art (11) and the situations of extension of the duration of the doctoral student activity approved by CSUD the conditions under which the doctoral program may be interrupted;
- e. art (35) ways to prevent fraud in scientific research and access to research resources;
- f. art (6) and (9) ensuring access to research resources.

## **Analysis**

The regulatory framework is clear and the university complies with the requirements

## **Recommendations**

The indicator is fulfilled

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

***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**

Starting with the 2018/2019 academic year, the UB implements the UMS program, for the management of doctoral students' schooling. This program includes both the admission to the doctorate and the management of doctoral studies from their beginning to their completion.

## **Analysis**





The requirements based on the Ministry Order for Doctoral Studies are accomplished in terms of the IT system.

## 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

The University of Bucharest verifies the percentage of similarity of doctoral theses since 2013. In addition to the verifications expressly requested by the doctoral supervisor, in 2014 the random verification of 10% of the doctoral theses that were to be defended publicly was implemented and, since 2016, according to the provisions of the national legislation, all doctoral theses are verified. Currently, at the level of the institution are used two computer programs certified by OM 3485/2016, Turnitin and SistemAntiplagiat.ro.

## Analysis

The antiplagiarism tools are in place and are used effectively.

## 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.*

**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

The doctoral supervisors in the Doctoral School of Chemistry have a continuous concern in attracting funding for research activities through research projects at



national and international level. A list of the 57 competitive research grants and contracts carried out by the doctoral supervisors in the period 2016-2020 is provided.

## Analysis

The competitiveness of the Domain supervisors is clear and they are actively searching for and finding external sources of funding to support their research and the research of their PhD students.

## 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

A number of 16 doctoral students out of the 39 doctoral students existing at the time of the evaluation benefit for a minimum of six months from other sources of funding than government funding: the proportion is 41% which

demonstrates that the INDICATOR IS FULFILLED.

## Analysis

The proportion of students that are beneficiary of funding sources other than government funding is clearly higher than 20%.

## Recommendations

The indicator is fulfilled.

**Performance Indicator \*A.1.3.3.<sup>11</sup>** *At least 10% of the total amount of doctoral grants obtained by the university through institutional contracts and of tuition fees collected from the doctoral students enrolled in the paid tuition system is used to reimburse professional training expenses of doctoral students (attending conferences, summer schools, training, programs abroad, publication of specialty papers or other specific forms of dissemination etc.).*

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<sup>11</sup> The indicators marked with an asterisk (\*) hold a special status, referring exclusively to the evaluation of doctoral studies domains, as per Article 12 from the annex No.1 of the Order of the minister of education No. 3651/12.04.2021 approving the Methodology for evaluating university doctoral studies and the system of criteria, standards and performance indicators used in the evaluation. In case they are not met, the Agency extends a period of maximum 3 years to IOSUD to correct the respective deficiencies.



## Description

The University of Bucharest is in a process of gradually expanding the forms of financial support for the professional training of doctoral students. A procedure for stimulating the research performance of doctoral students has been implemented since 2013. The procedure contains provisions regarding:

1. participation in national and international scientific events
2. carrying out research / documentation / doctoral training internships
3. financial support of theses in international co-supervision
4. carrying out internships abroad for doctoral students enrolled on the European Doctorate route (Doctor Europaeus 19 / Europaea)<sup>12</sup>
5. supporting the conferences of doctoral students organized at the level of the University of Bucharest
6. supporting doctoral school conferences and their publications
7. providing the necessary materials for the research activity of doctoral students

The management of doctoral grants is done centrally at the UB administration level.

The UB claims to support the training activities of doctoral students by including doctoral students in research grants, Erasmus mobility and other forms of internationalization support, through scholarships and projects from European funds, through institutional development projects, as well as through the offer training in the field of transversal competences.

Reaching the level of 10% of the value of doctoral grants obtained by the university by institutional contract and tuition fees received from doctoral students from the form of education with fee, which at the UB level would have meant about 2.6 million lei in 2019, is an objective for the coming years.

## Analysis

The UB states that the 10% value is an objective for the upcoming years, as part of the strategy for improving the performance of the doctoral students. It is important that the UB understands this indicator as critical, as reimbursement in research of the funds obtained from other sources is essential, and putting the students in front of such strategy is a good and desired practice.

## Recommendations

The indicator is partially fulfilled.

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<sup>12</sup>

<https://www.chimie.unibuc.ro/index.php/dept-scoala-doctorala-in-chimie/1904-doctorat-europaeus-euro-paea>



## **Criterion A.2. Research infrastructure**

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

**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**

According to the SER, and also learnt by the on-site visit by the members of the evaluation team, the CHEMISTRY domain has laboratories and data processing spaces equipped with apparatus, laboratory equipment, computers, software, library, access to international databases, library, internet, etc., with most of which publicly presented on the profile platform (ERRIS).

The research laboratories are located in the 3 headquarters of the Faculty of Chemistry:

- Building Panduri - Sos. Panduri 90
- Regina Elisabeta building - Bd. Regina Elisabeta 4-12
- Building Dumbrava Roşie - Str, Dumbrava Roşie no, 23

The research infrastructure and the offer of research services are presented publicly through an ERRIS profile platform (Romanian Research Infrastructures System) with the highlighting of the equipment purchased in the period 2016-2020.

### **Analysis**

The field of doctoral studies in Chemistry has at its disposal infrastructure that guarantees the correct implementation of the domain studies.

### **Recommendations**

The indicator is fulfilled.

## **Criterion A.3. Quality of Human Resources**

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



**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**

Within the field of doctoral chemistry, 10 doctoral supervisors currently work, of which 9 (90%) meet the minimum standards of the National Council for Attestation of University Degrees, Diplomas and Certificates (CNATDCU) in the field of Chemistry, cf. Order no. 6,129/2016 in force at the time of the evaluation. Mrs. Prof. Dr. Irinel-Adriana Badea partially meets the CNATDCU criteria.

### **Analysis**

The number of doctoral supervisors who have activity in the field of Chemistry and meet the minimum standards of the National Council for Attesting the Academic Titles, Diplomas and Certifications (CNATDCU) in force at the time of the evaluation is, by large, achieved.

### **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**

Doctoral supervisors members of the Doctoral School in Chemistry are holders within the University of Bucharest with didactic or research norm.

### **Analysis**

Clear fulfilment

### **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**

According to the SER and Annex Coef A313\_List of course holders the disciplines in the training program based on advanced university studies<sup>13</sup> related to the field are supported by teachers and researchers who have the quality of doctoral supervisor professors who meet the CNADTCU standards in force for the field of chemistry.

### **Analysis**

The indicator is clearly fulfilled.

### **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 programs<sup>14</sup> does not exceed 20%.*

### **Description**

In the Doctoral School in Chemistry there are no situations in which the doctoral supervisors coordinate at the same time more than 8 doctoral students.

### **Analysis**

The indicator is largely fulfilled

### **Recommendations**

The indicator is fulfilled.

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

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<sup>13</sup>

<https://www.chimie.unibuc.ro/index.php/dept-scoala-doctorala-in-chimie/186-planuri-de-invatamanant-scoala-doctorala>

<sup>14</sup> 3 years for the doctoral university studies with the duration stipulated at Article 159, paragraph (3), respectively 4 years for the doctoral university studies with the duration stipulated at Article 174, paragraph (3) of the Law of national education No.1/2011 with subsequent amendments and additions, with additional extension periods approved as per Article 39, paragraph (3) of the Code of doctoral studies approved by the GD No. 681/2011 with subsequent amendments and additions.



**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**

All PhD supervisors in the field of chemistry (100%) present at least 5 Web of Science indexed publications in journals with an impact factor of significant relevance to the field of chemistry, with a large number of international citations revealing a progress in scientific research - development - innovation. (check in particular Annex Coef A321\_Hirsh Index)

### **Analysis**

Doctoral supervisors have publications indexed in the Web of Science, with impact factor relevant to the field of chemistry.

### **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 10 PhD supervisors from the Doctoral School of Chemistry, 70% meet all CNADTCU criteria: at least 25% of the score required by the minimum CNATDCU standards in force at the date of evaluation, necessary and mandatory to obtain the certificate of qualification, based on scientific results from the last five years.



## Analysis

The group of doctoral supervisors are clearly active in research.

## Recommendations

The indicator is fulfilled.

### **Domain B. EDUCATIONAL EFFECTIVENESS**

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

**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.*

**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

A total number of 8 master's degree graduates from other higher education institutions in the country and abroad entered the program within the period 2016-2020. This, related to the total number of 27 places financed from the state budget within the doctoral school in chemistry in the last five years (2016-2020) represents a ratio of 0.3.

## Analysis

Enough diversity is ensured within the program.

## Recommendations

The indicator is fulfilled.

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

**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**

The admission contest consists in the presentation of the previous research activity and of the chosen doctoral research topic. The evaluation and selection of candidates enrolled in the competition for admission to doctoral studies is made in relation to the following criteria:

- The quality of the presentation of the previous research activity (the scientific context and motivation of the research, the definition of the research objectives, the research methodology, the obtained results) and of the doctoral research topic (60% weight).
- Ability to support the topic of doctoral research (weight 30%).
- Academic and scientific results of the candidate (school situation, scientific articles, etc.. mentioned in the candidate's file) (weight 10%).

Additional criteria are in place to ensure diversity and fulfillment of the doctoral regulations.

## **Analysis**

The admission process fulfills the expected procedures in agreement with the regulations.

## **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 admission<sup>15</sup> does not exceed 30%.***

## **Description**

The expulsion rate of doctoral students, including after dropping out of school, 3 and 4 years after admission, is 6.9% (2 out of 29) and therefore does not exceed 30%. within the period 2016-2020 the total number of doctoral students who dropped out in the first two years of doctoral studies was 0.

## **Analysis**

The expulsion and withdrawal rates are very low, which implies success of the PhD program objectives.

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<sup>15</sup> 3 years for the doctoral university studies with the duration stipulated at Article 159, paragraph (3), respectively 4 years for the doctoral university studies with the duration stipulated at Article 174, paragraph (3) of the Law of national education No. 1/2011 with subsequent amendments and additions.



## Recommendations

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.*

**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**

The training program based on advanced university studies includes 8 disciplines relevant for training in scientific research of doctoral students, of which one discipline is intended for in-depth study of research methodology and other disciplines include aspects of research methodology.

### **Analysis**

It appears clear that the PhD program follows the expected structure and contents.

## Recommendations

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.*

### **Description**

UB, through the CSUD, prioritized the acquisition of the norms of ethics and academic deontology by doctoral students. In addition to the pioneering measures introduced since 2013 on electronic control for plagiarism prevention, several courses including important components on research ethics and ethics, academic writing and scientific project management, courses already on offer in some doctoral schools, were included on the list of disciplines dedicated to transversal competencies, being thus open to doctoral students from all doctoral schools of the UB.

In 2017, taking advantage of the inclusion of the ethical dimension as a possibility in one of the funding directions through the Institutional Development Fund, UB implemented the CNFIS-FDI-2017-0245 project "Promoting academic ethics and deontology at the University of Bucharest", dedicated first year students in master's and doctoral cycles. This led to the organization of 6 series of courses in the discipline



of Academic Deontology for a total of 429 PhD students in year I. This pioneering initiative of the UB was adopted by national decision makers through OMEN no.3. Starting with the 2018/2019 academic year, the discipline Ethics and academic integrity has a mandatory status in the curriculum of the Doctoral School in Chemistry.

## **Analysis**

Ethical aspects as well as intellectual property topics are included in the curricula of the different institutes.

## **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 activities<sup>16</sup>.*

## **Description**

The 30 ECTS training program for doctoral students based on advanced university studies takes place in the first year for a maximum of 12 weeks. The program includes::

- courses offered by the Doctoral School in Chemistry;
- complementary courses, recognized by credit transfer, offered by other doctoral schools;
- doctoral seminars;
- guided research activities;
- participation in scientific events;
- presentations of research reports.

The curriculum of the doctoral school also includes the complementary training module based on the independent work and soft skills development of the doctoral student.

## **Analysis**

Training in the PhD program includes balanced material to ensure the proper formation of the PhD students in terms of *knowledge, skills, responsibility and autonomy*.

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<sup>16</sup> Or by what the graduate should know, understand and to be able to do, according to the provisions of the Methodology of 17 March 2017 regarding inscription and registration of higher education qualifications in the National Register of Qualifications in Higher Education (RNCIS) approved by the Order No.3475/2017 with subsequent amendments and additions.



## 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

For the development of the doctorate, the doctoral student is supported by a steering committee whose role is to coordinate, monitor and correct, together with the doctoral supervisor, the activity of the doctoral student throughout the doctoral program. This commission consists of three members with the title of doctor, who may be persons affiliated to the doctoral school or teachers and researchers not affiliated to it. The composition of the steering committee is established by the doctoral supervisor after consultation with the doctoral student. The steering committee participates in the definition and monitoring of the research program of the doctoral student. At the same time, the members of the guidance committee offer the doctoral student, in agreement with the doctoral supervisor and in accordance with the rules of each doctoral school, support in carrying out research activities and in the entire doctoral training process.

## Analysis

Counseling and guidance is a major concern of the PhD program, as learnt from the SER and also from the interviews.

## 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

The ratio between the number of doctoral students (117) and the number of teachers and researchers providing guidance (39) is 3:1.

## Analysis

There is a large number of researchers in tasks of supervising and advising PhD students, which guarantees a healthy training environment for the students.

## Recommendations



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.*

*\*general description of the standard analysis.*

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

#### **Description**

The research results are capitalized by doctoral students through scientific publications in internationally recognized journals, listed ISI, largely positioned in the Q1 quartile for the research field addressed. The dissemination of research results is also achieved through presentations at scientific conferences.

#### **Analysis**

Performance of the students within the program is outstanding, implying a high level of the whole program with respect to other universities and centers within the Romanian system.

#### **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**

The ratio between the number of presentations (290) of doctoral students who completed their doctoral studies in the evaluated period (2016-2020), including those of poster type, exhibitions, made at prestigious international events (held in the country or abroad) and the number of doctoral students (25) who have completed their



doctoral studies in the evaluated period (last five years) is  $290: 25 = 11.06$ , much larger than 1.

### **Analysis**

As occurred with the previous indicator, the outstanding productivity of PhD students is remarkable.

### **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.*

**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**

The number of doctoral theses assigned to a referent coming from a higher education institution, other than the University of Bucharest, does not exceed two (2) for the theses coordinated by the same doctoral supervisor, in one year.

### **Analysis**

There exists a good balance between openness and inclusion of researchers in other centers and institutions and researchers of UB.

### **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**

The ratio between the number of doctoral theses assigned (2) to a certain scientific



referent from another higher education institution than the one in which the doctoral thesis is organized and the number of doctoral theses (25) defended in the same doctoral field within the school doctoral degree is  $2/25 = 0.08$ , much lower than the threshold of the criteria.

## **Analysis**

The variety of panel members is large and not problematic at all, showing good health in the PhD studies.

## **Recommendations**

The indicator is fulfilled

## **Domain C. QUALITY MANAGEMENT**

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

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

*\*general description of the standard analysis.*

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

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

## **Description**

In the field of quality assurance, the University of Bucharest promotes the idea that quality assurance should not appear as an additional form of bureaucracy or as a package of formal procedures requiring compliance. Quality management is naturally integrated in the activity of the departments, together with the students' participation in the evaluation of the teachers and with the evaluation of the scientific activity by the colleagues. The culture of quality is dominated by adherence to values such as the responsibility of intellectuals for the community they belong to, the search for truth and



academic freedom, the critical and innovative spirit or the desire to change the world for the better.

Within the University of Bucharest there are structures responsible for continuous quality assurance and improvement.

- At central level, the responsibility for quality assurance lies with the Quality Assessment and Assurance Commission.
- The Curricular Development and Qualifications Office
- Within each faculty there exist the Commission for Evaluation and Quality Assurance at the faculty level (CEAC-F) which assumes the objectives proposed by CEAC-UB, but also objectives specific to the areas within the faculty and its own strategy.
- the Council of Doctoral Studies (CSUD) and the Doctoral School Councils are involved in the internal quality assurance processes of the doctorate.

The coordination of the activity of monitoring, evaluation and quality assurance in doctoral schools is the responsibility of CSUD which adopts the necessary measures to ensure the quality of doctoral studies, for the proper conduct of periodic evaluations of doctoral schools and doctoral supervisors, for compliance with ethics and deontology of doctoral supervisors and doctoral students (Art. 5). Monitoring is carried out at institutional level through the Annual Report of the Commission for Evaluation and Quality Assurance within the University of Bucharest (provides data, information, analysis on the organization and conduct of doctoral studies) and periodically, but not later than 5 years, by CSUD which performs an internal evaluation at the level of all doctoral schools which ends with a Report on the activity of the University of Bucharest as IOSUD.

The reports of the doctoral schools and the Report on the Activity of the University of Bucharest as IOSUD are finalized with proposals to improve the activity at the level of the respective doctoral school of IOSUD, each accompanied by a realistic plan of measures for the next period. The implementation of the proposed measures is monitored at the level of each doctoral school, but also centralized by the CSUD.

Students are represented at the level of all structures, in the number or percentage provided by law.

## **Analysis**

From the information obtained, the quality system is in place, including transparency of all processes and structures for QE/QA through the UB web site.

## **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**

IOSUD has assumed the responsibility to create the institutional framework for improving the specific activities of doctoral studies, elaborating the regulations, procedures and methodologies. The operational plan of the University of Bucharest presents annually the objectives assumed at IOSUD level, as well as the activities that will be implemented to achieve them.

The annual operational plans developed at the level of UB faculties also include the policies and strategies for quality improvement identified by the Doctoral School following the analysis of the results of the internal evaluation processes.

Based on the results found, each year, each faculty proposes a plan of measures to remedy the deficiencies reported and to stimulate scientific and academic performance, with specific details on doctoral studies: identifying and encouraging colleagues to obtain a degree in chemistry in order to increase the number of PhD supervisors and attracting research funding through European programs.

## **Analysis**

The mechanisms to assess the satisfaction of the students are in place, and no special concerns were detected in this regard from the interviews.

## **Recommendations**

The indicator is fulfilled

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

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

***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**

The doctoral school publishes on its website<sup>17</sup> and through IOSUD<sup>18</sup>, in compliance with the general rules on data protection, the information regarding all items specified in the criteria.

## **Analysis**

The web pages concerning the PhD program seem well developed and informative.

## **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.*

**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**

All PhD students have free access to a platform with academic databases relevant to the fields of organized doctoral studies. The UB has contracted and implemented, since 2013, services that ensure access for all doctoral students to electronic scientific resources relevant to each of the fields of doctoral studies they pursue. Through the ANELIS Plus program, PhD students benefit free of charge from a platform with academic databases required for carrying out their research activity.

## **Analysis**

Good access to databases and external sources of information to help the development of the PhD studies.

## **Recommendations**

The indicator is fulfilled.

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<sup>17</sup> <https://www.chimie.unibuc.ro/index.php/dept-scoala-doctorala-in-chimie>

<sup>18</sup> <https://doctorat.unibuc.ro>



**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**

Starting with the 2017/2018 academic year, the first year doctoral students had the opportunity to get acquainted with the operation of electronic programs for verifying the degree of similarity within the discipline Academic Deontology, and later the discipline Ethics and academic integrity. At the same time, starting with the 2018/2019 academic year, doctoral students can access one of the electronic systems for verifying the degree of similarity used by the UB under the Procedure on the use of the electronic system for verifying the degree of similarity by doctoral students.

### **Analysis**

Antiplagiarism is a major concern in the Romanian institutions and, as seen in other universities, the computer platforms seem to be working properly for the purpose of assessing the originality of the research works.

### **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**

The doctoral supervisor together with the Doctoral School Council facilitates the access of doctoral students to the existing infrastructure in the Faculty of Chemistry and the research institutions / units with which it has concluded collaboration agreements (regulated by the Doctoral School Regulations).

### **Analysis**

The infrastructure is at the state of the art in terms of quality and accessibility by the PhD students through the four research centers.

### **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.*



**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**

The doctoral school in chemistry has concluded mobility agreements with foreign universities, with research institutes aimed at the mobility of doctoral students and teachers.

82% (32 mobilities out of 39 doctoral students) of doctoral students have completed a training course abroad or another form of mobility, such as participation in international scientific conferences.

### **Analysis**

The internationalization of the PhD students seems to be clearly a major concern of the PhD program and important efforts are being done to ensure it.

### **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**

The doctoral school in chemistry has a permanent preoccupation to internationalize the doctoral studies by carrying out doctorates in national and international co-tutoring. The program of doctoral students includes in the first year a module that is supported by invited professors from abroad and the presentation of invited conferences is a normality within the doctoral program.

### **Analysis**

From all different institutions providing chemistry PhD students in Romania that this international expert has had access to, the UB seems by far the better positioned to take profit of the advantages of internationalization in research within the PhD domain in Chemistry.



## 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

The internationalization of activities within doctoral studies is supported by concrete measures:

- Participation in doctoral training networks Training Network of the European Joint Doctorate(MSCA-ITN-EJD), funded under the HORIZON 2020 program, coordinated by Prof. Dr. Vasile Părvulescu.
- Attracting international doctoral students - in the period 2016-2020, 5 doctoral students from Iraq, Brazil, Mexico, India and the Republic of Moldova were enrolled.
- inclusion of international experts in commissions for guiding or defending doctoral theses.
- The doctoral school in chemistry, through IOSUD, has concluded collaboration agreements with foreign universities and research institutes aimed at the mobility of doctoral students and teachers. 82.48% of PhD students have completed a training course abroad or another form of mobility such as participating in international scientific conferences.

## Analysis

The efforts of incorporating international students are successful, although strategic and specific planning in this regard would be important to be developed.

## Recommendations

Indicator is fulfilled.



#### **IV. SWOT Analysis**

<p><b><u>Strengths:</u></b></p> <ul style="list-style-type: none"><li>- well structured program</li><li>- very good research infrastructures and vision</li><li>- Excellence in research of the PhD supervisors.</li><li>- Opennes.</li></ul>	<p><b><u>Weaknesses:</u></b></p> <ul style="list-style-type: none"><li>- good but improvable internationalization programs.</li></ul>
<p><b><u>Opportunities:</u></b></p> <ul style="list-style-type: none"><li>- willing of the supervisors to demonstrate a good level of research and commitment to internationalization</li><li>- there is plenty of space to increase the interaction with the industrial environment, even if this is already the main aim of some of the institutes</li></ul>	<p><b><u>Threats:</u></b></p> <ul style="list-style-type: none"><li>- the increasing process of internationalization of the European universities pushes all universities to make extra efforts to incorporate this dimension to their programs, with the risk of being left behind if such effort is not understood by the whole institution</li></ul>

## V. Overview of judgments awarded and of the recommendations

No.	Type of indicator (PI, PI *, CPI)	Performance indicator	Judgment	Recommendations
1.	PI	A.1.1.1.	Fulfilled	
2.	PI	A.1.1.2.	Fulfilled	
3.	PI	A.1.2.1.	Fulfilled	
4.	PI	A.1.2.2.	Fulfilled	
5.	IP	A.1.3.1.	Fulfilled	
6.	PI *	A.1.3.2.	Fulfilled	
7.	PI *	A.1.3.3.	Partially Fulfilled	It is recommended that UB considers reimbursement of research revenues into the PhD programs as a correct strategy to enhance their productivity but also to push the university towards the development of joint programs with the industry through their students' training.
8.	CPI	A.2.1.1.	Fulfilled	
9.	CPI	A.3.1.1.	Fulfilled	
10.	PI *	A.3.1.2.	Fulfilled	
11.	PI	A.3.1.3.	Fulfilled	
12.	PI *	A.3.1.4.	Fulfilled	
13.	CPI	A.3.2.1.	Fulfilled	
14.	PI *	A.3.2.2.	Fulfilled	
15.	PI *	B.1.1.1.	Fulfilled	
16.	PI *	B.1.2.1.	Fulfilled	
17.	PI	B.1.2.2.	Fulfilled	
18.	PI	B.2.1.1.	Fulfilled	
19.	PI	B.2.1.2.	Fulfilled	
20.	PI	B.2.1.3.	Fulfilled	
21.	PI	B.2.1.4.	Fulfilled	



22.	CPI	B.2.1.5.	Fullfilled	
23.	CPI	B.3.1.1.	Fullfilled	
24.	PI *	B.3.1.2.	Fullfilled	
25.	PI *	B.3.2.1.	Fullfilled	
26.	PI *	B.3.2.2.	Fullfilled	
27.	PI	C.1.1.1.	Fullfilled	
28.	PI *	C.1.1.2.	Fullfilled	
29.	CPI	C.2.1.1.	Fullfilled	
30.	PI	C.2.2.1.	Fullfilled	
31.	PI	C.2.2.2.	Fullfilled	
32.	PI	C.2.2.3.	Fullfilled	
33.	PI *	C.3.1.1.	Fullfilled	
34.	PI	C.3.1.2.	Fullfilled	
35.	PI	C.3.1.3.	Fullfilled	The efforts of incorporating international students are successful, although strategic and specific planning in this regard would be important to be developed.





## ***VI. Conclusions and general recommendations***

The health of the Chemistry PhD program at the University of Bucharest is extremely good. Great Phd program, large collection of excellent supervisors, state of the art infrastructure and great projection. The only moderately relevant concern is the problems to obtain good credits of the internationalization, despite the fact that the University of Bucharest seems to be very well positioned with respect to other institutions in Romania, according to the information provided by the self evaluation report and during the evaluation. In particular, the topics supervisors work in are in line with the Horizon Europe program, which needs to be pushed for with the promotion of additional international relationships. So, the program is encouraged to help researchers establish a grounded program for internationalization that touches IN and OUT mobility of both students and supervisors and researchers.

Overall, based on the performance of the University of Bucharest related to the proposed indicators, the behaviour is excellent and only minor corrections are suggested, as summarized in the table in section [V. Overview of judgments awarded and of the recommendations](#).

## VII. Annexes

### VII.1. Annex: Detailed schedule of the visit

Date	time	Activity
November 17th	17:00-19:00	Online preliminary meeting for discussing main methodological aspects related to the evaluation of doctoral studies
November 22nd	9:00-9:50	Online preliminary meeting for the preparation and harmonization of evaluation steps, in hybrid mode, of doctoral study domains and IOSUD
	10:00-10:50	Online meeting with representatives of the institution and of the Council for Academic Doctoral Studies (CSUD)
	11:00-11:50	Online meeting the contact person for the doctoral study and the team who drafted the internal report
	12:00-12:50	Online meeting with the academic staff of the doctoral domain
	15:00-15:50	Online meeting with graduates for the doctoral domain
	17:00-18:00	Online meeting with the Commission for Quality Evaluation and Assurance (CEAC) members / Quality Assurance Department
November 23th	9:00-9:50	Online meeting with the members of the ethics commission
	14:00-14:50	Online meeting with PhD students
	16:00-16:50	Online technical meeting to identify specific issues that need to be clarified, if necessary, during the on-site visit
November 24th	12:00-12:50	Online meeting with the directors / persons Incharge of the research centers / laboratories within the doctoral study domain
	13:00-13:50	Online meeting with the doctoral school council (CSD) members
	15:00-15:50	Online meeting with employers of Doctoral graduates in the Chemistry domai
November 25th	9:00-18:00	On site visit
November 26th	13:00-14:20	Online Meeting for conclusions
	14:30-15:30	Final meeting with Academy's representatives