

The International expert Report of Chemical Engineering doctoral study domain.

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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.).

See the EER of the Chemical Engineering Panel.

I would like to emphasize:

- good organization (including simultaneous translation, except for one meeting)
- on-line meetings not as efficient as real meetings (according to my other experiences in quality assessment) especially for the common meetings for IOSUD and all doctoral study domains (for example meeting with CEAC) because the group is too large.

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;

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



- 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.

See common EER.

I participated in all the meetings as shown in the schedule which is in annex to the EER of the Chemical Engineering Panel except for the meetings with Ethics commission, CSD and Employers. I read carefully the Self Evaluation Report and scanned through most of the annexes.

Part I of the SER is very well written and gives a lot of insight into UPT as a whole and chemical engineering doctoral study domain.

Part II is very explicit for each of the criteria and indicators. However, I deplore the fact that it essentially points to too many annexes without giving the main evidence for the various indicators in the text itself. This forces the evaluators to do themselves the work of extracting the pertinent information from the proposed documents, instead of having this done by the team drafting the SER. The annexes should be there only for us to check for further details, not for getting the main information. Moreover some of the annexes contain exactly the same information. In other cases, annexes are given for UPT as a whole and it is left to the experts to search for the information pertaining to Chemical Engineering.



Recommandation to ARACIS

Since this has also been the case in previous evaluation missions that I carried for ARACIS, I believe that it should be corrected by appropriate instructions from ARACIS to the institutions preparing their review. I would recommend **to limit the number of annexes** (around 30, 10 per section of the performance indicators) and limit the number of pages per annex.

III. Analysis of ARACIS's performance indicators

Domain A. INSTITUTIONAL CAPACITY

**general description of domain analysis.*

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

**general description of the criterion analysis.*

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

**general description of the standard analysis.*

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

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

Methodologies and procedures exist for all these points as described in several annexes. It is not clear from the report whether and how these procedures are applied in practice. The evidence provided during the meetings indicate that most of these methodologies are indeed followed. However, Standard 1.1. mentions “**efficient**” mechanisms (according to SER) and there is no evidence for me that all these procedures are really efficient !



As far as the procedure for admission of doctoral students is concerned, I consider that the weight on the interview (0.5 out of 3) is too small.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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

The SER provides evidence that the indicator is fulfilled. See the comment above on the efficiency!

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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.

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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

Do not rely too much on software to detect plagiarism since there also exist AI programs that mask plagiarism. The innovative nature of a paper submitted by a PhD student is first the responsibility of the PhD supervisor.

The indicator is fulfilled/~~partially fulfilled~~/not 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.*

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

The SER provides evidence that the indicator is fulfilled. The supervisors in Chemical Engineering seem to be able to attract enough external funding to carry out research activities of high quality.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/~~not 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

The SER provides evidence that the indicator is fulfilled.

In addition, some PhD students are employed by private companies and are hence "funded" by their companies.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/~~not 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.).

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.

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

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

The annex mentioned in the SER provides evidence that the indicator is fulfilled but it takes into account infrastructure costs of research labs, which should not be considered in this ratio, to my point of view.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not fulfilled.

Criterion A.2. Research infrastructure

**general description of the criterion analysis.*

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

**general description of the standard analysis.*

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

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

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

The SER provides evidence that the indicator is fulfilled. The research infrastructure seems to be very recent and corresponds to the "state of the art" in the field.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not fulfilled.

Criterion A.3. Quality of Human Resources

**general description of the criterion analysis.*

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

**general description of the standard analysis.*

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

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

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

The SER provides evidence that the indicator is fulfilled.

The regulations for habilitation are however very strict and seem to prevent some very good researchers to become PhD supervisors. Some academics have pointed out to the fact that CNATCU **habilitation criteria change too often** and that some staff meet the criteria some year and not the next year !

See also the comment in the SER under performance indicator A.3.2.2.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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

The SER provides evidence that the indicator is partially fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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

The SER provides evidence that the indicator is fulfilled. However, some subjects of the doctoral school could (and should) be taught by foreign academic visitors (to reinforce internationalisation of the program), and for this, the teaching activities of the doctoral school should not be concentrated in the first year of the PhD program.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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%.

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

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

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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not fulfilled.

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

*general description of the standard analysis.

Performance Indicator A.3.2.1. At least 50% of the doctoral thesis advisors in the evaluated domain have at least 5 Web of Science- or ERIH-indexed publications in magazines of impact, or other achievements of relevant significance for that domain, including international-level contributions that indicate progress in scientific research - development - innovation for the evaluated domain. The aforementioned doctoral thesis advisors enjoy international awareness within the past five years, consisting of: membership on scientific boards of international publications and conferences; membership on boards of international professional associations; guests in conferences or expert groups working abroad, or membership on doctoral defense commissions at universities abroad or co-leading with universities abroad. For Arts and Sports and Physical Education Sciences, doctoral thesis advisors shall prove their international visibility within the past five years by their membership on the boards of professional associations, membership in organizing committees of arts events and international competitions, 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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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

The SER provides evidence that the indicator is fulfilled.

Recommendations:



The indicator is fulfilled/~~partially fulfilled~~/~~not fulfilled~~.

Domain B. EDUCATIONAL EFFECTIVENESS

**general description of domain analysis.*

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

**general description of the criterion analysis.*

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

**general description of the standard analysis.*

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

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

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

The SER provides evidence that the indicator is partially fulfilled. From the discussion with the PhD supervisors, it appears that recruitment from other Romanian universities is difficult since chemical engineering is only taught in the three major Polytechnical universities, who keep their own students for PhD studies (if interested). Chemical Engineering should then try to attract more international PhD students, including from outside the EU but I was told that the present regulations do not make this easy for candidates without a decent knowledge of Romanian. I was told that the thesis has to be written in Romanian, which appears not to be correct, but seems to be the belief of some supervisors.

Recommendations:

Analyse correctly the situation and decide of a plan of actions to promote chemical engineering PhD studies at UPT for **foreign** students. Indicate clearly that these studies can be essentially followed in English. The present site http://www.upt.ro/Informatii_admission-2021---phd-studies_1714_en.html is only very partially in English (details, forms are in Romanian).

The indicator is fulfilled/~~partially fulfilled~~/~~not fulfilled~~.

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

**general description of the standard analysis.*

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

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

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

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

The SER points to documents that indicate that the selection criteria indeed include the above mentioned criteria. In my opinion, the weight of the interview criterion is too small (0.5 out of 3), but this has to be corrected at university level.

Recommendations:

Increase the weight of the interview (1/3 of the total weight ?) in the selection procedure.

The indicator is fulfilled/~~partially fulfilled~~/not 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

No students have been expelled from the PhD program in chemical engineering.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not fulfilled.

Criterion B.2. The content of doctoral programs

**general description of the criterion analysis.*

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

**general description of the standard analysis.*

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

The SER provides evidence that the indicator is fulfilled. The description of the cross-curricular course is very interesting. However, this course has a value of 15 credits and I doubt that students would spend over 400 hours (25% of a full time for one year) on these questions, certainly not during the first year!

Recommendations:

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

I don't think that the training program of a doctoral school should be concentrated during the first year. Spreading the program over the three years of PhD studies would allow to offer a larger variety of courses to students, some of them taught by foreign academic guests, and would increase the interactions among the students.

The indicator is fulfilled/~~partially fulfilled~~/not 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 of the facts, the findings from the assessed institution's documents and the evaluation visit itself

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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not fulfilled.

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.

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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The present ratio shows that there is indeed room to attract more PhD students, including international ones.

The indicator is fulfilled/~~partially fulfilled~~/not fulfilled.

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

**general description of the criterion analysis.*

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

**general description of the standard analysis.*

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

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

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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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 of the facts, the findings from the assessed institution's documents and the evaluation visit itself

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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not fulfilled.

Domain C. QUALITY MANAGEMENT

**general description of domain analysis.*

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

**general description of the criterion analysis.*

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

**general description of the standard analysis.*

Performance Indicator C.1.1.1. The Doctoral school in the respective university study domain shall demonstrate the continuous development of the evaluation process and its internal quality assurance

following a procedure developed and applied at the level of the IOSUD, the following assessed criteria being mandatory:

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

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

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

The SER points to documents that describe procedures. The meeting with CEAC gave the impression that UPT is essentially concerned with the formal respect of procedures rather than with the quality enhancement of their programs (including PhD programs). **No precise action plan following the assessed criteria has been produced.** The short discussion at the CEAC meeting about what to do with the large number of PhD supervisors who do not meet the CNATCU criteria leaves the impression that some people are more concerned with criteria than with the aim of a doctoral school ("qualification of independent scientific researchers", as stated on page 3 of the SER). Should some criteria be reconsidered ?

Recommendations:

Develop and implement **plans of actions** to improve some of the indicators.

The indicator is ~~fulfilled~~/partially fulfilled/~~not 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

The mechanisms exist (within the University) to collect feedback from students but we have no evidence that any feedback received is appropriately followed by an action plan.

Recommendations:

The indicator is ~~fulfilled~~/partially fulfilled/~~not fulfilled~~.

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

**general description of the criterion analysis.*



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

**general description of the standard analysis.*

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

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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

Since internationalisation is an important issue, make sure that most of the documents addressed to PhD students have an English version.

The indicator is fulfilled/~~partially fulfilled~~/not 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.*

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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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

The SER provides evidence that the indicator is fulfilled.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not fulfilled.

Criterion C.3. Internationalization

**general description of the criterion analysis.*

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

**general description of the standard analysis.*

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

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

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

We have evidence of ERASMUS agreements and several PhD students have completed a mobility abroad. There is no evidence of foreign PhD students coming to UPT for an extended stay, which also contributes to the internationalisation of a programme.

Recommendations:

The indicator is fulfilled/~~partially fulfilled~~/not 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

There is no thesis with international co-supervision in the Chemical Engineering domain and very few courses have been taught in this domain by international experts. This is particularly sad, since there are apparently quite a number of international collaborations between Chemical engineering and universities abroad (The Netherlands, Germany, Hungary,...)

Recommendations:

Develop a "strategy" (see standard 3.1) to enhance internationalisation and make a real action plan.

The indicator is ~~fulfilled~~/partially fulfilled/not 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

The SER provides evidence that the indicator is fulfilled at IOSUD level. However, there is no evidence of international PhD students in Chemical Engineering. The domain cannot rely solely on activities organised at UPT level.

Recommendations:

The indicator is ~~fulfilled~~/partially fulfilled/not fulfilled.

IV. SWOT Analysis

<u>Strengths:</u>	<u>Weaknesses:</u>
<ul style="list-style-type: none"> - Very motivated and qualified group of teachers - Quality of infrastructure - Not too many students per supervisor - Specific training courses for PhD, including a very interesting cross curricular ethics and research methodology course - many PhD students have had an internship abroad 	<ul style="list-style-type: none"> - Internationalisation of the doctoral school, including of the team of PhD students - PhD seminars not organised in a systematic form - Action plans for improvement are missing

<u>Opportunities:</u> - Good links with international university labs -	<u>Threats:</u> - The institution seems to put more emphasis on the formal respect of procedures than on the sense the procedures are supposed to support - Many supervisors do not meet the CNATCU criteria
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Recommendation (for ARACIS!):

I really believe that such a SWOT analysis should be made by the doctoral teams while preparing their SER and not by the external experts. I am not convinced that an « imposed » SWOT analysis is of any use, while our comments on THEIR SWOT analysis could have reinforce it, or re-orient it...

V. Overview of judgments awarded and of the recommendations

No.	Type of indicator (* , C)	Performance indicator	Judgment	Recommendations

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

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

See EER

VI. Conclusions and general recommendations

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

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

See EER

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