Spanish Case Study

National Higher Education, Research and QA context (focus on Doctorate level)

University of Alcala

1 Chapter 1: Overall landscape – National Higher Education (HE), research and QA context (with focus on Doctorate level)

1.1 Brief presentation of the HE and research system

1.1.1 General relevant information about Spain HE cycle studies

Spain is one of the current 28 countries composing the European Union. Its area is 505.944 km^2. The current population (data[1] for 2016) is 46,5 million of people. The Spain capital is Madrid located in the center of the country. The PIB per capita for the 2016 was 23970 €. The total number of active enterprises is 3,24 million with a 55,4% of them without any employee.

The current population pyramid for Spain is the following. The dark blue are the ratio of foreigners.
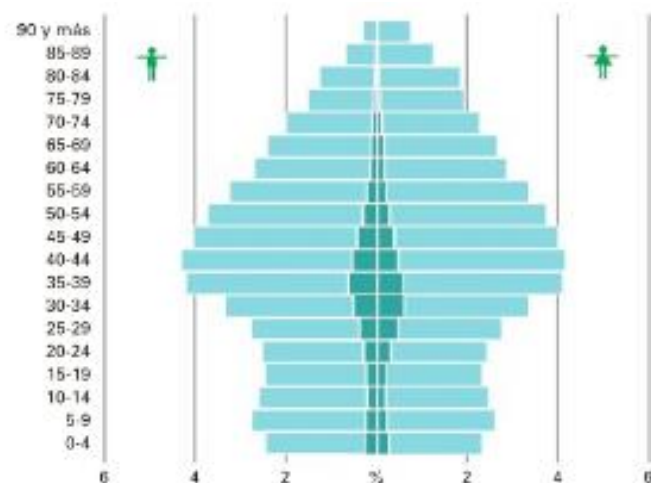
People older than 65 years reaches the 18,7% of the population (8,7 million of people).

In Spain there are a total number of 84 Universities, 50 of which are public ones. In total there are 343 (274 public) higher studies campus/venues.

The number of students enrolled in undergraduate studies are 8,1 million of people. The ratio of students who leave school before ending the studies is 19%, a higher ratio than other EU countries. The total number of HE students for the academic year 2015-2016 was 1,3 million of which 54,5% were women. The net rate of schooling in HEIs is 31.1%.

There are 1.81 universities per million of inhabitants, and considering the 18-24 year-old population the number is 26.47 per million inhabitants.

The following figure shows the students enrollment and % of women in the different study fields for 2015-16 academic year:

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[1] http://www.ine.es/prodyser/espa_cifras/2017/index.html

Branch of Teaching	Number of students	% Women
Social Sciences and Law	618.851	59.7%
Engineering and Architecture	254.244	25.5%
Arts and Humanities	133.710	61.1%
Health Sciences	240.812	69.3%
Sciences	81.492	51.0%
Total	1.329.109	54.5%

There is a total offering of 2.699 official university studies, with only 23 inter-university degrees. There is a total of 303.779 places for studying bachelor, out of which 246.642 are on-site studies and other 57.137 online studies.

For the 2014-2015 year, there were 231.961 students that obtain their Bachelor/Master title.

The employment ratio for graduate people is around 75,6%. About 7,8% of graduates went abroad to get a job.

The enrollment in master and doctoral studies has increased in the last years.

Currently, the total number of students enrolled in master is about 140.000, while in PhD studies are 28.546 students.

1.2 National regulations concerning the Spanish HE studies

The current organization of Spanish Universities and HE studies was established by the National Organic Law [BOE-LOU, 2001], later revised by the Organic Law 4/2007 of April 12, 2007 [BOE-LO, 2007]. As a whole, these laws propose an innovative, open and flexible framework, to provide universities with the most appropriate regulatory solutions to meet their needs, with the aim of improving the excellence and quality of the university activities. The HEIs have the following responsibilities:

- Realization of the public service of higher education through research, teaching and study.
- The creation, development, transmission and critique of science, technique and culture.
- Preparation for the exercise of professional activities that require the application of scientific knowledge and methods for artistic creation.
- The development of science and technology, as well as the dissemination, valuation and transfer of knowledge to the service of culture, quality of life and economic development.
- The dissemination of knowledge and culture through university extension and lifelong learning.

Together with the basic research, the university should encourage the transfer to the productive sector of the research results in coordination and complementarity with other agents of the science and technology system.

Today's society, industry and government (at a national and regional levels) demand from the university to assume new responsibilities in the fields of research, training and culture. To this end, several mechanisms were established to promote research and link the university with the society.

These regulations aim to achieve the following objectives:

- To improve the teaching, research and management quality of the universities.
- To encourage the mobility of students and teachers, and to benefit the greatest number.
- To deepen the creation and transmission of knowledge as the axis of economic activity.
- To respond to the challenges derived from a non-face higher education through the new information and communication technologies.
- To respond to the challenges of training throughout life.
- Integrate competitively with the best schools in the new European higher education space.

On the one hand, the universities are given new competencies related to the hiring of teachers, the re-entry into the active service of their professors, the creation of centers and structures of distance learning, the establishment of the admission procedures for their students, etc. On the other hand, the regional governments have the competences to regulate the legal regime and remuneration of the employed teachers, the capacity to establish additional remuneration for teachers, the approval of funded study programs and the evaluation of the quality of the universities in their area.

1.2.1 HEI Governing Bodies

One of the objectives of the law is to facilitate a more agile and effective management of HEIs. For this reason, a clear differentiation is established between the management bodies and the bodies of representation and supervision of the universities, as shown below:

- **Governing Council:** The highest governing body of the university will be responsible for the approval of the university's strategic and programmatic lines in terms of human resources, research, organization of the teachings, economic resources and elaboration of the Budgets. It will be born members of the Rector (who will chair it), the manager and the Secretary General. The choice of the rest of the members of the Council It is established in the ART. 15 of the law and Point 13 of the reform of 2007.

- **Rector:** The figure of the Rector is reinforced. They redesigned their competencies and those of their government team. The Rector will be elected by the university community through universal suffrage, free and secret, with a weight of vote that will represent the different sectors of this.
- **Social Council**: The new law on universities reinforces the competences and functions of the Social Council to improve the fulfillment of the tasks of supervision and accountability of the university. These competencies include: supervision of economic activities; Approval of the budget and multiannual programming; To comply with the Rector's proposal for the appointment of the manager; To agree on remuneration supplements for teachers; Monitoring the development and implementation of Budgets; and approve the creation of foundations and other legal entities. The reform of 2007 also establishes that the social councils may have the appropriate information and advice from the evaluation bodies of the Autonomous Communities (Regional Government) and the National Agency for Quality (ANECA).
- **Cloister**: It is the organ of representation of the university community, and will be chaired by the Rector. It shall include, among other functions, the elaboration of the statutes and the election of 40% of the Governing Council. In addition, it will have the power to convene elections to the Rector, on the initiative of one third of its members. The approval of such an initiative would lead to the dissolution of the cloister and the cessation of the Rector. The cloister will have a majority composition of staff doctorate professors (51%), leaving the remaining 49% as determined by each university in its statutes.
- Also, as governing bodies of faculty or school and department are established the Faculty or school Board and the Department Council, respectively.

1.2.2 HEIs Quality assessment

Different quality aspects of HEIs are evaluated. This evaluation has among its objectives at least the following ones: the measurement of the performance of the public service of the HEIs university, the comparison and transparency among universities and improving teacher quality. Additionally, these quality results will serve as a point of information for public administrations for decision making and promote mobility and excellence of teachers and students.

The objectives set out in the preceding paragraph are fulfilled through the evaluation, certification and accreditation of:

- Studies aimed at obtaining national or international certificates of validity, including that of a Doctor and the qualifications of universities and higher

education centers;

- Teaching, research and teacher-management activities, as well as higher education centers;
- Other activities and programs that may be carried out as a result of the promotion of the quality of teaching and research by public administrations.

The evaluation functions, and those issues leading to certification and accreditation of studies, are the responsibility of the National Agency for Quality Assessment and accreditation (ANECA) and the evaluation bodies that the regional governments might determine.

ANECA is a state foundation created by the Ministry of Education, Culture and Sports, in compliance with the provisions of article 32 of the Law of Universities (Organic Law 6/2001, of 21 December). Its activity falls within the next general objectives:

- Hiring teachers in the most competitive way;
- Promote the integration of universities into the HEIs;
- Evaluate quality through an independent agency;
- Encourage transparency, comparison, the cooperation and competitiveness of universities to improve the quality level;
- Encourage the continuous improvement of the teaching, research and management activities of Universities;
- Providing qualified and comparable information to public administrations for decision making in its field of competences;
- Informing students, their families and society as a whole about the quality of university programs and services.

These objectives are carried out by means of evaluation global reports, for example, the university quality report [ANECA, 2015], or about particular institutions or curricula studies, leading to certification and accreditation processes.

1.2.3 HEIs Teachers categories

The national regulation establishes that there will be a greater number of staff professors than hired professors. Additionally, each professor should have a proper balance of the teaching and research functions. The selection of teachers is established in the regulations and aims to be open, competitive and transparent, to guarantee merit and professionalism. The candidates require to be first accredited so they may access to the university teaching duties.

The current teaching figures are the following:

- **Assistant Professor:** hired for a maximum of five years among those who had already completed the PhD credits, whose main purpose will be to complete their scientific training. They will also be able to collaborate in teaching tasks up to a maximum of 60 hours per year.
- **PhD Assistant Professor:** hired for a maximum of five years. The law

establishes that to access the category of Professor Assistant Doctor a positive external evaluation is required and preferably not to have been linked with the contracting university in the previous two years.

- **Associate Professor**: he/she will develop teaching and research tasks, or primarily research. This figure is reserved for doctors who certify at least three years of post-doctoral teaching and research activity, or priority research and have received a positive external evaluation.
- **External Teacher**: temporarily engaged, and with part-time dedication. They will be professionals of recognized prestige who carry out their professional activity outside the university.
- **Honorific Professor:** temporarily contracted among retired university professors who have provided recognized services to the university.
- **Visiting Professor**: temporarily hired among recognized professors or researchers from other universities or research centers.

1.3 Articulation between Master and Doctorate level, statistics per level of study and field of study, student-graduate statistics

In Spain there are 3 levels at higher studies. The first cycle (Bachelor- undergraduate) of the university studies has a duration of 4 years. The teachings correspond with basic and general formation, together with other topics orientated to the preparation for the exercise of activities of professional character.

The second cycle of university studies, Postgraduate, will lead to the obtaining of the master's degree, with a duration that ranges from 1 to 2 years. The teaching sessions are focused on advanced training and aimed at academic or professional specialization, or to encourage the initiation of research tasks.

Finally, the third cycle of the university studies are the doctorate level, whose objective is the advanced training of the student in research tasks and the suitable duration is around 3 years.

The described structure level of university studies is shown below:

Bachelor	Master	Doctorate
240 ECTS	60 – 120 ECTS	3-4 years

Therefore, considering a full-time student with an adequate performance, who enters the university at the age of 18 years, would obtain the title of degree at 22 years, the achievement of the master's degree between the 23-24 years and the

doctorate level at the age of 26-27.

All higher-level studies leading to bachelor's, master's and doctoral degrees shall undergo periodic evaluations, reviewing the fulfillment of the study objectives proposed by the university initially. The study that passes the evaluation is accredited by the competent quality agency. In addition, public administrations will be able to use the results of this assessment to establish specific support and funding programs.

1.3.1 Undergraduate's degrees

They are organized by large branches of knowledge and all of them must adapt to the guidelines that the Government establishes in order to obtain such official studies. In the case of regulated professions (Directive 2005/36/EC of the European Parliament), these guidelines will be specific for the corresponding studies. The knowledge classification is shown below:

- Arts and Humanities,
- Sciences,
- Health Sciences,
- Social and legal sciences,
- Engineering and architecture.

All grade titles consist of **240 ECTS Credits**. The degree ends with the elaboration and defense of a work or end-of-degree project by the student, included in the total duration of the grade.

Usually, the first 60 initial ECTS have a common orientation to form in basic competencies of the current knowledge branch. This way, students have the possibility to enroll in another similar study.

1.3.2 Master's degrees

They are not organized by branches of knowledge and only specific guidelines are given when corresponding regulatory rules of the profession requires it. Exceptionally, and only in the cases of regulated professions (Directive 2005/36/EC of the European Parliament), the master's degrees are linked to their own guidelines.

Master's degrees can have between **60 and 120 ECTS credits**, in which all kinds of learning are included with their corresponding evaluations. The master's degree ends with the elaboration and public oral defense of a project or end-of-master's work by the student, included in the total duration of the degree.

In the case of postgraduate studies, the initiative has been in universities in collaboration with the regional administrations, who define and develop their own strategies and also the organization of specialized formation and research training.

1.3.3 Doctoral studies

Currently, the Spanish third cycle programs contains a series of formation activities in parallel of doing the research activities which will lead to defend the PhD thesis. The figure below shows the different stages along the PhD study duration.

Year 1	Year 2	Year 3	Year 4	Year 5
Formation activities			Extra year	Final extra year
	Recommended foreign stays			

The PhD student and supervisor presents a research plan in the first 6 months of the thesis which will be evaluated each year during the thesis duration by the doctorate program commission.

Next section describes the different options to be admitted in a PhD doctoral study.

1.3.3.1 Different options for the PhD access

The Royal Decree 43/2015[2] introduced some modification to the PhD access for the sake of facilitating the internationalization of the Spanish university graduates. It opens the possibility of degrees with a duration of 3 and 4 years, and Masters of 1 or 2 years, in a way that complements the generalist and specialized training to access to the doctorate (in any case the minimum number of ECTS in Degree + Master ≥ 300 ECTS to access a doctoral study).

In general, for access to an official doctorate program it will be necessary to be in possession of the official Spanish titles of degree, or equivalent, and of university master, or equivalent, provided that they have exceeded, at least, 300 ECTS credits in the set of these two studies.

1.4 References to the national qualifications frameworks

The Spanish qualifications framework (Marco Español de Cualificaciones - MECU[3]) follows the European one[4]. There exists a link between the different levels and level descriptors for referencing the MECU to the European qualifications framework (EQF)

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[2] https://www.boe.es/boe/dias/2015/02/03/pdfs/BOE-A-2015-943.pdf

[3]

 Established under Royal Decree: Ministry of Education (2011). 1027/2011, Spanish qualifications framework for Higher Education]: http://www.boe.es/boe/dias/2011/08/03/pdfs/BOE-A-2011-13317.pdf

[4] Cedefop (2016). *The application of learning outcomes approaches across Europe*. http://www.cedefop.europa.eu/files/3074_en.pdf

levels. In order to make Spanish qualifications easier to understand the different levels describe the qualifications in terms of learning outcomes. Through it is easier to identify, validate and recognize all kinds of learning outcomes (including non-formal and informal learning), regardless of the way they were acquired.

The MECU levels are labelled 1 to 4 and correspond to the four levels given in the FQ-EHEA: advanced VET, bachelor, master and doctorate. Of these, the first is a non-university higher education level included to support and promote lifelong learning. Some advanced vocational education and training (VET) is considered higher education (HE) but is undertaken outside the university system; such advanced VET studies may be recognized not only for admission to university but also as ECTS credits where learning outcomes are properly aligned. These four highest levels are based on the Dublin descriptors.

Next table shown the equivalences among different qualifications framework.

EQF[5]	SQF[6]	SQF-EHEA	QF-EHEA
8	8	Doctorate	Third cycle
7	7	Master	Second cycle
6	6	Bachelor	First cycle
5	5	Advanced VET	First cycle

1.4.1 National statistics on research and role of the HEIs within the research system

The research activities may be divided by private and public funding[7]. The enterprises are responsible of the largest amount of money invested in R&D (0.63% related to GDP in the year 2015, with the aim to increase by 2020 to 0.72% of the GDP). They have about 90.000 people employed in the R&D departments. Additionally, the public sector includes 40.000 staff people in the different administrations and 74.000 researchers in the HEIs. Though, the investment in R&D in the public sector has undergone a diminishing tendency currently being a 1.23% of the GDP with the aim to increase by 2020 to 2.0%.

1.4.1.1 Research modalities.

At the university level, the research can be considered from three points of view:

- Teaching Support: training of research staff at the highest level (doctoral

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[5] EQF - European qualifications framework

[6] SQF - Spanish qualifications framework

[7] Plan Estatal de I+D+i 2017-2020. http://www.idi.mineco.gob.es/stfls/MICINN/Prensa/FICHEROS/2017/PlanEstatal_IDI_vB.pdf

students), to meet the needs that arise in the industry and in academia.

- Activity that brings new knowledge: development of basic research that contributes to a better knowledge of certain topics.
- As a scientific and technical basis for the progress of society: development of technologies that allow the country to increase the economic level and the degree of technological autonomy.

The research might be classified into two types:

- Basic research: It is investigated by the mere fact of advancing knowledge.
- Applied research: The main objective is to achieve practical results.

1.4.1.2 Research structure at HEIs

The legislation determines how research must be carried out in the HEIS. There exist different entities: research groups, departments and university research institutes. The typical organizational structure of research at HEIs is the following: the head of the research and the highest rank is the vice-president for Research. Below it has different units under control: research groups, research centers, enterprise relationship unit and patents and results unit.

1.4.2 Relationships between HE and Enterprises: internships, placements, practicum, etc.

The relationship between HE and enterprises is mainly done in the area of research and student internships. Teachers at the university or enterprise staff does not mobility. Research contracts can be signed between university and enterprises which funded the research. Other times the call for research funding makes mandatory the public private partnership to form up a mixed consortium to obtain public funds.

Placements in companies help students understand better how the world of work operates and how to apply research methods from industry, business or the institutions to their own work. The doctoral programs may offer placements in companies with research departments.

Taking part in an external placement requires that an educational cooperation agreement between the university and the company or institution involved for the practical training of students be signed beforehand. This agreement will be formalized at the proposal of the body responsible for running the doctoral programme and will be signed in the name of the HEI by the Rector or competent Vice-rector, and by the legal representative of the company or institution, of the person delegated by the same.

On the other hand, the internships and placements are considerably increasing due to the highly interest that society has about the insertion of HE graduates into the country work labour. Internships regulated by different laws, ones concerning the universities and others related to labour relations. The internships are classified as

work practices that are included in the curricula or work practices that are extra-curricular.

It is important to know that there exist a university committee who approves the strategic decisions and controls each university. In that committee there are different society stakeholders so the relevant and near enterprises are presented in some way.

Universities promote results dissemination and research exploitation through different policies. On one hand they should do it, because their funding is related to the research results. Spain is divided in regions and each region administration has its own formula to better use the citizen money in the HEIs. On the other hand, the universities know that the research and result exploitation are key for the success of the institution. Therefore, the universities usually have calls for research projects, research grants, mobility, patents, prizes related to transfer research results to society, and so on. In the last years, a large effort has been made to increase the ratio of entrepreneurship among graduates. There are several contests for attracting funds to students' start-ups.

1.5 Brief presentation of the doctorate level

1.5.1 How is doctorate level organized in the country?

Spanish HEIs offer a wide range of doctoral programs aimed at training researchers in the five branches of knowledge: Arts and Humanities, Sciences, Social and Legal Sciences, Health Sciences, and Engineering and Architecture.

The cycle 3 studies are regulated in Spain by the Ministry of Education, Culture and Sports (MEC). As the competences in education are transferred to the regional governments, apart from the global scheme for a common structure of cycle 3 studies, each region has its own particularities. There is a central database of doctoral programs that are publicly available and the MEC, having the last word to approve or dismiss a proposal, usually makes a direct translation of the regional decisions.

The national agency for quality (ANECA) has also been distributed along the different regions in a form of distinct legal figures (Foundations, Agencies, Institutes, etc.) , so the approval (verification and accreditation) of doctoral programs of universities located in the region will be evaluated by an independent external quality agency which informs the regional government who decides about the convenience of opening/closing doctoral programs.

When there is a joint doctoral program with more than one region involved in the process, one university will act as the main coordinator and the evaluation of the doctoral program is done via the quality agency in that region.

1.5.2 Number of HEIs providing Cycle 3.

There is a total of 42 Spanish universities where it is possible to study a doctorate.

The research fields of interest are defined at regional levels, giving more funds to research lines aligned with those strategic topics.

Research runs in parallel with doctoral programs, being the PhD students a fundamental base of the research results in Spain.

The evaluation of the PhD defense will lead to a overall rating awarded to the thesis in accordance with the following scale: "NOT SUITABLE", "APPROVED", "NOTABLE", and "OUTSTANDING". For this, each member of the evaluation panel board must write down a report about the awarded qualification. Additionally, the PhD thesis may have the mention of "cum laude" if the overall grade is outstanding and, in this sense, all the members proposes their positive secret vote unanimously.

There are prizes for the best PhD Thesis at each University in the field of Sciences and Humanities.

1.5.3 National statistics on Doctorate studies[8]

The total number of students enrolled in 3rd cycle studies is 28.546, 27.390 in state universities and 1.156.

In the table below, it is shown the number of PhD defended and students enrolled in the 2014/2015 academic year.

Branch of Teaching	Number of doctoral programs	Enrolled Students
Social Sciences and Law	255	7,628
Engineering and Architecture	251	5,203
Arts and Humanities	157	5,086
Health Sciences	170	6,564
Sciences	225	4,065
Total	1,035	28,546

In the table below, it is shown the number of PhD defended and students enrolled in

the 2014/2015 academic year.

Year	Number of defended PhDs
2011	9.483
2012	10.504
2013	10.889
2014	11.316
2015	14.694
2016	20.049

The increase in PhDs defended in the 2016 year has been motivated largely by the deadline that new regulations introduced in the doctoral studies in 2011.

2   Chapter 2: Nature and characteristics of doctorate studies

2.1   Information on Doctorate program design (methodology, ECTS…)

The Spanish doctorate is not measured by ECTS. Though, there are some formative activities to be fulfilled along the duration of the doctorate. These activities are regulated for each particular doctoral program and can be general skills or specific competences related to the particular program.

Table below shows the number of PhDs defended in the 2016 academic year regarding the study field.

Study Field	Nº PhDs Defended
Services	75
Agriculture - veterinary	360
Education	958
Computer Science	958
Business, Administration and Law	1.348
Engineering, Industry and Architecture	1.601
Social sciences, journalism and documentation	2.256
Health and social services	3.015
Arts and Humanities	3.104
Sciences	5.536

2.2   Characteristics of the Cycle 3 study:

2.2.1 Organization of Cycle 3 studies: selection, admission and enrollment

Before applying for admission to a doctoral program, the student should contact a possible thesis supervisor. First entry point could be to get in touch with the coordinator of a particular doctoral program.

The process of access and admission onto a doctoral programme involves the applicant and the responsible academic committee directly. When applying for admission onto a doctoral programme, it is recommended that candidates follow these steps:

- Check they meet the general access and specific admission requirements.
- Find out all the details about the doctoral programme they like to enroll.
- Contact the doctoral programme's coordinator and their potential thesis supervisor.
- Apply to the Doctoral School for access by fulfilling the admission

application form, attaching all the required documentation.

After checking that the student meets the access requirements, the Doctoral School sends the documentation to the corresponding doctoral programme's academic committee in order for it to decide whether or not to admit the student.

Once admitted, the academic committee will assign the student a tutor. The student will have to sign the Learning and Good Practice Agreement, together with tutor and thesis supervisor. This Learning and Good Practice Agreement and the other admission documents must then be returned to the Doctoral School.

The UAH Doctoral School will notify students of their admission once all due documentation has been received in the prescribed period and on paper. Should the academic committee refuse admission, students may make the relevant appeal in the space of three days after receiving notification of the decision. Should the decision still be negative, students may appeal to the Rector.

Students will then enroll in the corresponding doctoral programme by means of the self-enrollment system. They will also make their payment in the mode selected.

In its annual memorandum each programme's Quality Commission must analyses enrollment data and study the complaints and suggestions of stakeholders in order to identify the existence of any problems, difficulties or anomalies in the access and admission procedure. The following indicators will be taken into account:

- Percentage take-up of places
- Evolution of enrollment data

Each programme's quality commission will be in possession of the following sources of evidence:

- Pre-registration forms or admission applications.
- Enrollments.

2.2.2 Training Activities

To help students acquire the competences corresponding to a doctoral degree, the Doctoral Schools offer various training activities which together amount to a coherent training strategy designed in collaboration with the different doctoral programme coordinators. It usually includes:

- Transferable skills training
- Specific training activities

Students must enter the training activities they perform in the course of their doctoral studies in a personalized control record called Record of Activities Document.

2.2.2.1 Transferable skills training

Each academic year, the Doctoral School runs three types of optional transferable skills activities, the aim of which is to develop the competences and personal capacities common to all our doctoral programs.

- Seminars. The School offers annually a series of seminars for students of all doctoral programs on matters related to the search and management of information, the oral and written presentation of research, project preparation, ethical aspects of research, and so on. It is advisable to attend these seminars during the first or second year of the doctorate.
- Young researchers' seminars. These seminars provide students with the opportunity to present their research and preview some of its findings before their fellow-students and lecturers. It is advisable to carry out this activity in the second or third year of the doctorate.
- Research stays in companies or institutions. To help students to gain an insight into the world of work and to apply research methods from industry or institutions, our doctoral programs may organize research stays in companies or institutions with research departments.

2.2.2.2 Other transferable skills activities

Together with the transferable skills activities, students can also take courses, seminars and other activities offered by other universities or institutions, Spanish or foreign, either face-to-face or online, obtaining the corresponding certificate. For examples at online platforms such as Coursera, edX, MiriadaX, etc.

The contents of all these activities should fit the definition of transferable skills training (that is to say, acquisition of competences that are common to all the branches and disciplines of the doctorate) and they must previously have the approval of the Tutor and the Thesis Supervisor.

2.2.2.3 Specific activities

Each doctoral programme will have a range of specific training activities catering to the interests of its students. The programme's academic committee will be in charge of planning them, establishing their criteria, defining their goals and contents, and formulating control procedures, bearing in mind what the programme's verification memorandum has to say on the matter. The range of specific activities vary largely for each doctoral programme.

2.2.3 Status, competencies and role of the supervisor

The doctoral research is carried out under the guidance of a supervisor in compliance with the Regulations concerning the writing, authorization and examination of doctoral theses.

At the time of admission to the doctoral program or no later than three months after enrolment, the Academic Committee in charge of the doctoral program will assign each student a doctoral thesis supervisor, who may be any Spanish or foreign doctor.

The thesis supervisor will have full responsibility for the coherence and suitability of the training activities, for the impact and innovativeness of the thesis' subject matter in its field, and for guiding the planning and tailoring, where necessary, of other projects and activities in which his or her student participates.

The main duties of supervisors are to:

- Agree in with the Learning and good practice agreement adopted by the School.
- Review their Record of Activities Document regularly.
- Report on and endorse their' Research Plan periodically.
- Ensure that the results of their students' research are fruitful, and are disseminated and put to use by means, for instance, of papers, transfers to other research contexts or, where appropriate, commercialization.
- Emit a favorable report on the Doctoral Thesis.

The thesis may be jointly supervised by other doctors when there are good academic reasons for doing so, such as the interdisciplinary of the subject matter or programs run in collaboration with national or international partners.

Supervisors of doctoral theses must have demonstrable research experience, as accredited by the award of a favourable six-year research assessment in the last ten years or by satisfying any combination of the following criteria: leadership of research projects, participation in research projects, supervision of doctoral theses, and publications. In the case of joint supervision, only one supervisor need be in possession of a favourable six-year research assessment

2.2.4 Thesis defense

The Doctoral Thesis is an original piece of research written by the doctoral student and represents the core of the Research Plan.

It is possible to present the thesis as a compendium of articles written by the student and published in relevant journals. The minimum number of articles is three. In this case, in addition to the articles, the thesis must include an overview summary lending coherence to the piece of research as a whole, indicating its overall line of argument, and appending a chapter by way of conclusion.

The Academic Committee will be responsible for the approving the submission of the Thesis. If the defense of the Thesis is authorized, the Academic Committee of the programme will draft and approve the panel proposal, using the standard form. The panel will be appointed by the Official Postgraduate Studies Committee.

For programs under previous decrees, the Department responsible for the programme will perform these procedures.

In the case of foreign students who have written their doctoral thesis in a language other than their mother tongue, the same level of linguistic competence will apply as reflected in the admission requirements of the doctoral programme in which they are pursuing their studies.

If the doctoral thesis is written in the framework of a co-tuition agreement, where relevant the language requirement stipulated in said agreement will be taken into account.

The figure below shows the typical process for the final phase of a Spanish doctoral thesis.

- PROCESS OF THE FINAL PHASE OF THE DOCTORAL THESIS -
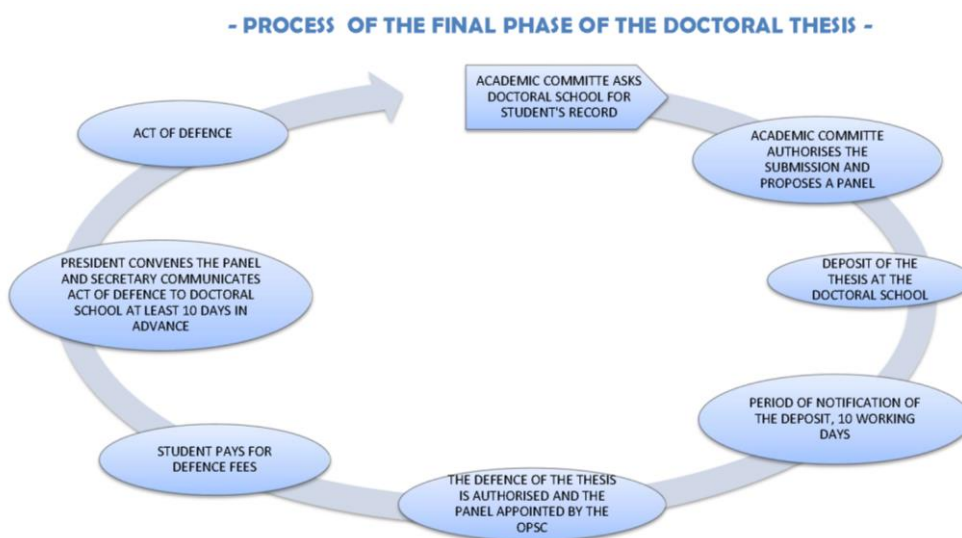
The paperwork from the deposit of the PhD till the exam lasts around 4 months.

The doctorate regulations specify that the book presented to the exam cannot be later modified. This is not the case for other EU countries which encourages the student to improve the PhD book after the exam.

2.2.5 Diversification of Doctoral studies

To increase the relationship between enterprises and universities with respect to the doctoral studies, the Spanish government has included in the regulations the possibility to do the PhD thesis while working in a company. The idea behind this regulation is to involve the enterprises in the definition of the PhD topics. Therefore, the results of the PhD are directly transferred to the society. Different measures have pushed forward these industrial doctorates as it is the funding of the salary for the PhD candidate while doing the thesis in the enterprise. The HEI supervisor must agree with the tutorship at the enterprise the research topics and do the monitoring similar to other doctorate students doing the research at the university.

2.2.6 Internationalization of Doctoral studies

2.2.6.1 Mobility schemes

Through the participation of university teaching staff and, where appropriate, researchers and experts of repute in this scheme, it is hoped to enhance university doctoral studies and increase cooperation between Spanish and foreign institutions. With regard to student mobility, the aim is to facilitate activities related to research in doctoral programs run in other research centers of universities / research laboratories. What is more, mobility is part and parcel of studies pursued under the terms of joint degree agreements among Spanish or foreign universities.

Mobility are promoted in different ways, for example the following ones:

- Joint doctoral programs between different universities.
- The study plan is devised and approved jointly by two or more universities.
- An agreement specifies the academic and administrative conditions in which the studies are to be conducted.
- The agreement provides for, as appropriate, the mobility scheme which affects both teaching staff and students.
- The formalization of cotutelage agreements for doctoral theses.
- Mobility grants and subventions offered by the Ministry of Education in different ambits.
- Doctoral theses with International Mention.
- Grants aimed at teaching staff and students.
- Short stays tied to Research Staff and University Teaching Staff Scholarships funded by each University.

2.2.6.2 PhD with International Mention

The Spanish PhDs may have an international doctorate mention. In this way, the doctoral diploma might include the international doctorate ("Doctor international") mention on its reverse. The PhD defense should fulfill the following requirements:

- During the compulsory study period to achieve the Doctoral degree, the Doctoral student must have completed a three-month stay outside Spain, in a HEI or a prestigious research Centre, finishing studies or carrying out research studies. The period outside Spain and the activities involved need to be endorsed by the Director and authorized by the Academic Commission and will be included in the Doctorate activities document.
- A part of the Doctoral thesis, at least the summary and the conclusions, must have been written and presented in one of the usual languages for scientific communication in its field of knowledge. It will have to be different from any of the Spanish official languages. This rule will not apply when the reports on the time spent outside Spain and the experts are from a Spanish-speaking country.

- The thesis must have been evaluated by a minimum of two expert Doctors who belong to a non-Spanish Higher Education or research Institution: at least one expert belonging to any non-Spanish Higher Education Institution or research Centre, holding a Doctor's degree, and different from the responsible person for the period spent outside Spain mentioned in paragraph a), must have been part of the thesis Evaluation Board.

The defense of the thesis will have to be held in the same Spanish University where the student has enrolled or, in case of joint Doctorate programs, in any of the participating Universities, according to the rules specifying the collaboration agreements.

When depositing the doctoral thesis, the doctoral student must accredit a level of B2 in the language in which the thesis is to be defended should this be other than his or her mother language.

2.2.6.3 Joint Doctoral Degree

Additionally, it is possible to do a joint doctoral degree (also called "joint doctorate" or "cotutelle doctorate") is a degree awarded by two (or more) different institutions, who share the responsibilities of supervising, coordination and examining a researcher's work towards a PhD degree.

The co-tutelage procedure must comply with these requisites:

- The modes of admission to doctoral studies and to the deposit and examination of the doctoral thesis will be those which govern tertiary level studies at the relevant university.
- Those interested in doing on a doctorate under co-tutelage should pursue their studies under the control and responsibility of a thesis supervisor from each of the universities involved.
- Each thesis co-tutelage will be carried out in the framework of a tailored agreement between the two universities involved and on the basis of the principle of reciprocity. By virtue of the agreement each institution will acknowledge the validity of the doctoral thesis on the strength of a single presentation and each university will undertake to issue the degree title of doctor.
- The doctoral candidate will be registered at both universities but exempt of payment at one of them. The agreement must specify which the exempting university is.
- The period for researching and writing the thesis will be no longer than three years from the signing of the agreement and will be divided between the universities into alternating periods of residence at each. The minimum total period of residence at either will be six months, the rest of the residence being at the other. Each period of residence may be single or distributed across several periods.

- Publication, exploitation and protection of the results of the research carried out will be insured by both institutions in line with each country's stipulated procedures.
- The thesis will be examined once only at one of other of the two universities. One clause setting out this provision must be included in the agreement signed by both institutions.
- The panel for examining the thesis will be designated by mutual accord of both universities, while its composition will be in accordance with current legislation in both countries.
- The thesis will be written in one of the languages used habitually for scientific communication in the relevant field of knowledge and supplemented with an abstract written in one of the official languages spoken in the country of one of the universities that sign the cotutelage agreement.

2.3 Positioning of Cycle 3

Due to the autonomy of the Spanish universities, each doctoral school according to the strategic lines devised in each particular university proposes their doctorate programs. The doctoral research subjects are usually aligned with those having a good research line and being held by a certain number of researchers. It is worth noting that each doctoral program has 3 researchers supporting each research line contained in their description.

Despite the fact that each university can promote and maintain a doctorate program, the regional governments provide funds in different calls and only those doctorate programs with strong research results will capture funds to keep going, so in fact it is a competition system where to be alive you need to obtain good research results or it will be each own university who will pay for the costs of maintaining that structure. The funds that universities receive is related with research and quality of doctorate programs.

Every six years each doctorate program is evaluated by an external quality agency. There are different key measurements to evaluate the quality of the doctorate program. There is a minimum acceptable numbers to not discontinue a program.

Additionally, a doctorate program can apply for a special quality mention. There are funds and research calls where only those quality doctorate programs can apply for.

Taking a look at the employment of PhD thesis students, the first table below shows the ratio of people that has a job, and second table a job with the corresponding PhD level, both for people who have defended the PhD thesis in 2010, showing the employment data for 2011 and 2014 year, 1 and 4 years after the defense of the thesis.

Branch of Teaching	2011	2014
Social Sciences and Law	65.1%	64.6%
Engineering and Architecture	70.3%	67.8%
Arts and Humanities	52.5%	50.7%
Health Sciences	77.0%	76.2%
Sciences	59.6%	57.0%
Total	66.2%	68.3%

Branch of Teaching	2011	2014
Social Sciences and Law	93.7%	94.7%
Engineering and Architecture	96.9%	95.1%
Arts and Humanities	94.0%	94.8%
Health Sciences	96.9%	96.5%
Sciences	94.0%	91.3%
Total	95.3%	94.4%

A person with a PhD thesis has a high specialization in specific matters (which for a particular time can be a great advantage, but for a future the company may consider it an inconvenience), but his vision of the future, his ability to work in international contexts (and often intercultural) and its ability to perform technological surveillance gives it the possibility to open new avenues of research and find new applications to its advances. Doctoral people also brings to the company its great capacity for work, its autonomy and responsibility over its own work, his innovative vocation, his experience in risk management and another series of characteristics that he has acquired during his professional career. Even with those facts, small and medium enterprises do not have many PhD people in their staffs. Only 4% of enterprises in Spain values the PhD thesis in a job process selection.

Therefore, the Spanish government empowers the PhD jobs with some programs such as "Torres Quevedo". These grants are for a job of three years' duration for the employment of doctors who develop industrial research projects, experimental development or previous feasibility studies, in order to favor the professional career of the researchers, as well as to stimulate the demand in the private sector for personnel sufficiently prepared to undertake R+D plans and projects, and to help the consolidation of recent technology companies creation. The grant will be used to co-finance the salary and the Social Security contribution of the researchers hired during each of the annuities, considered independently.

2.4 Monitoring- of Doctoral Students and graduates

2.4.1 Monitoring done by Doctoral Program Academic Committee/Tutors

In accordance with the regulation of Spanish doctoral studies, monitoring and assessment of the doctoral candidates will be conducted annually by the Academic Committee of the doctoral programme.

To do this, the following procedure is normally used:

- The Tutor / Thesis Supervisor write down a report on his or her doctoral student. If the Supervisor is different from the Tutor or when there are several supervisors, each will write a different report. The report will mainly take into account the training activities performed by the student and the development of the Research Plan, or its draft if not yet approved.
- This report, together with an updated copy of the student's Record of Activities Document, is sent to the Coordinator of the Academic Committee and evaluated by the Academic Committee
- Once the assessment has been completed, the Academic Committee will fill in the corresponding annual assessment and monitoring reports and forward them, together with the report(s) from the Tutor / Thesis Supervisor, to the Doctoral School. A positive assessment is required in order to continue in the programme.

In the event of a properly grounded negative assessment, the student must be reassessed in six months' time. To this end, if his or her Research Plan had already been approved, a new Plan will be drawn up.

Should the second consecutive negative assessment be repeated, the student will leave the programme definitively.

Among other monitor tasks, tutors will:

- Oversee student's dealings with the Academic Committee of the programme.
- Sign the written undertaking setting out their supervisory functions with respect to their students.
- Submit to regular review their students' Record of Activities Document.
- Report on periodically and endorse their students' Research Plan.
- Help their students in the course of their training, providing them with the information, guidance and resources needed for their studies.
- Agree in with the School's Learning and good practice agreement.

2.4.2 Rights and duties of doctoral students

In addition to all the rights contemplated in Spanish regulations, doctoral students have the following rights:

1. To be evaluated according to public, objective, transparent and pre-

established criteria, of their training activities, with an evaluation that takes into account the global creativity of the works and research results in the form of publications, patents and others, as well as the context of its formative evolution.

2. Recognition of the authorship of the works produced during their training and the protection of their intellectual property, particularly the results of the doctoral thesis and previous research, in the terms established in the legislation current on the subject.

3. To have a tutor to guide their training process and a director, and if appropriate co-director, with accredited research experience, to supervise the completion of the doctoral thesis.

The doctoral students also have different duties that are next summarized:

1. Study and active participation in academic activities that help to complete their training, as well as maintain a structured and regular relationship with their tutors and thesis directors and have updated the document of activities according to current regulations.

2. Observe the recognized ethical practices and the fundamental ethical principles corresponding to their disciplines, as well as the ethical standards included in the various national, sectoral or institutional deontological codes. The student must sign an agreement /commitment to comply with the code of good practices adopted by UAH Doctoral School.

3. Respect the principle of intellectual property or joint ownership of data when the research is carried out in collaboration with supervisors and / or other researchers.

4. Know and comply with internal regulations on safety and health, especially those that refer to the use of laboratories, field work and other research environments.

3 Chapter 3: Internal quality assurance mechanisms

3.1 Case study of IQA mechanisms at Alcala University

The IQA of cycle 3 studies at Alcala University (UAH) is done by the Doctoral School and different commissions inside it. The UAH Doctoral School was created on 29 October 2012 with a view to develop and deliver doctoral degrees in the five branches of knowledge: Arts and Humanities, Sciences, Legal and Social Sciences, Health Sciences, and Engineering and Architecture.

Doctoral programs cater for the advanced training of students in research techniques and culminate in the preparation and examination of an original piece of research work known as the Doctoral Thesis. If completed successfully, the degree of Doctor is awarded, which is the highest academic university degree.

The following figure shows the structure and organization of the cycle 3 management unit at UAH:

Doctoral School - Management
Head of the Doctoral School
Head Committee
Doctorate Programs
Academic Committee
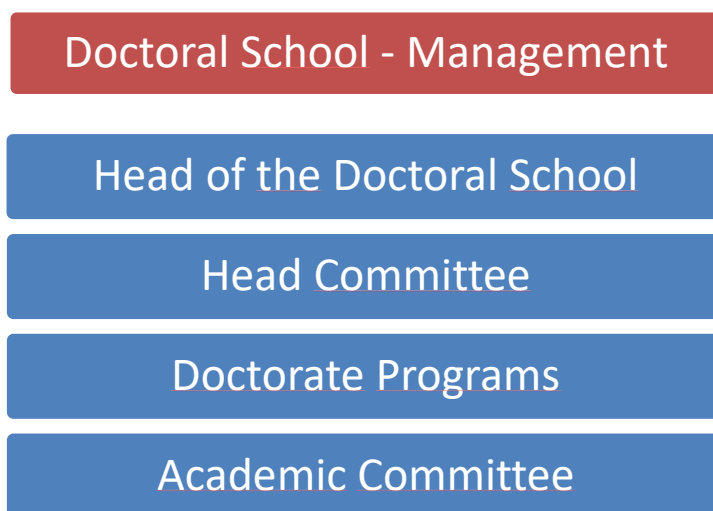
3.1.1 Doctoral School

The Doctoral School is organized and its doctoral programs regulated in accordance with the Royal Decree 99/2011, and the Internal Regulations of the Doctoral School.

The following are the objectives of the Doctoral School at UAH:

1. Design a doctoral training model aligned with the research and training strategy of UAH, creating the appropriate framework so that Doctoral students carry out quality research.
2. Achieve a solid transversal education and the acquisition of competences by the doctorates, in order to facilitate their labor insertion.
3. Promote the national and international mobility of doctoral students, as well as that of the directors and tutors involved in their training.
4. Involve the administration, companies and other entities outside the

University in the activities of the School, with the aim of better guidance of the doctorate to social needs.

5. Track the professional trajectory of the graduated doctors.

The Head of the Doctoral School at UAH have the following responsibilities:

1. Direct and coordinate the activity of Doctoral School and ensure the continuity and fulfillment of its objectives.
2. Represent the Doctoral School in front of the governing bodies of the UAH and in as many instances as necessary.
3. Execute and enforce the agreements of the Management Committee of Doctoral School.
4. Manage the budget of Doctoral School.
5. Prepare the annual reports, strategic plans, budget guidelines and the closing of the preceding fiscal year and send them to the Management Committee for approval.
6. Direct and supervise the compliance with the code of good practices and the obligations corresponding to the task of the same, as well as adopt the necessary measures to solve the problems that may occur.

The Head Committee of the Doctoral School at UAH is composed by the Head of Doctoral School, the coordinators of doctoral programs, different external actors from external entities with teaching agreements with the UAH at doctorate level, an administration person and 5 doctoral students. This Head Committee has the following responsibilities:

1. Define and organize general-training activities for doctoral students and regulate other activities of interest for their training.
2. Supervise the training and research activities organized by the Academic Commissions of the Doctoral Programs.
3. Ensure the monitoring of the teachings by guaranteeing the quality of the same.
4. Analyze the proposals for Doctoral Programs, studying in each case the academic and economic viability, strategic opportunity, compliance with current regulations and academic quality of the Program.
5. Propose to the Commission of Official Postgraduate Studies, for approval and subsequent transfer to the Governing Council, the Doctoral Programs for verification and authorization by the competent bodies.
6. Approve the annual report of the Director, which must include a report of the activities of the Doctoral School.
7. Guarantee the monitoring of the professional insertion of the doctors who have been trained in the Doctoral School.
8. Prepare and approve the proposal for Internal Regime Regulations and, where appropriate, the modifications thereof.
9. Approve the Guide of good practices to be signed by the members of the school.
10. Resolve the conflicts that arise between the different organs of the School of

Doctorate, in accordance with the current regulations of the UAH.

11. Resolve the incidents that occur in the application of this regulation, promoting if necessary its modification or proposing the creation of other development standards.

There is a permanent committee composed by members from the Head Committee of the Doctoral School to resolve particular easy tasks that appeared in the daily work. These decisions must be accepted but the whole Head Committee in the next meeting.

Each Doctoral Programme has an Academic Committee composed of the Programme Coordinator and at least one representative from each of its lines of research. As the body responsible for the Doctoral Programme´s training and research activities, the functions of the Academic Committee are:

1. To approve the Doctoral Programme's research plan and to send it to the Official Postgraduate Service for registration.
2. To assign tutors to the students of the Doctoral Programme and, should there be reasonable grounds for doing so, to manage any changes of tutor at any stage of the Doctoral Programme.
3. To assign thesis supervisors to the students of the relevant doctoral programme in a period no longer than six months after enrollment and, should there be reasonable grounds for doing so, to manage any changes of supervisor at any stage of the programme.
4. To authorize the co-supervision of theses when there are good academic reasons for doing so, such as the interdisciplinary nature of the subject or doctoral programs run in collaboration with other national or international institutions.
5. To subject to annual assessment and modify as necessary the research plan and the memorandum of the activities undertaken by the students of the Doctoral Programme, as well as the reports of their tutors and thesis supervisors.
6. To make a grounded decision regarding the continuation or otherwise of the Doctoral Programme of the students on that programme.
7. To determine the exceptional circumstances which might affect the non-publication of certain contents of theses, as laid down in article 14, section 6 of Royal Decree 99/2011.
8. To authorize stays and activities outside Spain as part of the doctoral student's training programme with a view to obtaining the International Doctor Mention.
9. To issue reports on doctoral students' applications to join or leave doctoral programs, for approval by the Managing Committee.
10. To authorize the examination of the thesis of each of the programme's doctoral students and to propose the examining panel for said thesis.

3.1.2 Doctoral School Quality Committee

The Quality Committee is the body responsible for planning and monitoring the School's Quality Assurance System. It runs in parallel to the management and activities of doctorate programs.

The University of Alcalá's strong commitment to quality in its doctoral programs, allowing the specialization of students in their academic, professional or research careers, have made doctoral degrees take Centre stage within the academic offer of the University. In this sense, the UAH Doctoral School sets the following general objectives related to quality:

- To ensure that the quality policy of the UAH Doctoral School is understood and accepted by all staff and is available to everyone.
- To extend the culture of quality and continuous improvement in the administrative and academic performance of the doctoral programs.
- To improve students' satisfaction through direct and individual attention, which facilitates their progress, improves their academic performance and place them in a position of competitive advantage when trying to get into the workplace.
- To achieve a permanent commitment to continuous improvement as a standard norm of conduct and to propose, and carry out, the corrective and preventive actions that may be necessary.
- To ensure the Quality Assurance remains effective and is periodically monitored and reviewed.

3.1.3 Doctoral Studies - Satisfaction Questionnaires

The Quality Committee of the Doctoral School will conduct satisfaction questionnaires relating to the transversal training activities in order to assess thereby how they were carried out and, when necessary, to make pertinent proposals for improvement in its annual monitoring report. To this end, the following indicators will be taken into account:

- Number of transversal training activities offered.
- Number of places offered in each activity.
- Number of students participating in each one.
- Report assessing student surveys.
- Number of students participating in work placements.
- Number of signed cooperation agreements.

3.1.4 Doctoral Programme's Quality Commission

Each doctoral programme's quality commission will be in possession of training activity satisfaction surveys in order to assess thereby how they were carried out and, when necessary, to make pertinent proposals for improvement in its annual Quality

memorandum, which will be written as part of the process of monitoring the programme.

Each programme's quality commission must analyze annually the number of teachers and students who have travelled to another university, whether at home or abroad, and those who have arrived as visiting lecturers. Similarly, accountability is done for number of students proceeding from other universities and those who decide to follow their studies in another university.

Each programme's quality commission will be in possession of the following sources of evidence:

- The number of signed cotutelage agreements.
- The number of students writing their thesis under cotutelage.
- The number of theses examined with the international mention, which entails a stay in another research institution.
- The number of students carrying out placements in institutions requiring mobility.
- Grants and subventions applied for and awarded.
- Degree of student's satisfaction with the mobility scheme.
- Where appropriate, the number of universities participating in joint doctoral programs and the number of students enrolled in those programs.

3.1.5 Keeping track of ex alumni

The Placements and Orientation service at UAH performs periodical studies of UAH graduates' record of securing employment. In order to keep track of departing doctors, the service maintains a record containing data from a questionnaire to be carried out using the computer application as set out in the doctoral programmes' verification memoranda.

Each year, the Doctoral School informs all its ex alumni of the benefits of fulfilling the questionnaire. The questionnaire contains three types of data:

1. Academic data:
    a. Undergraduate and master's degrees completed
    b. Doctoral studies: program, dates, duration, grade, mobility, prizes, etc.
2. Professional data:
    a. Corporate or professional sector
    b. Periods and length of occupation
    c. Company or institution: name, number of employees, location, etc.
    d. Professional category and position
3. Other data.
    a. Does your company carry out I+D projects?
    b. Is a PhD required for your position?
    c. Did your PhD help you secure your job?

d. Do you continue to do research or do you expect to do so in the near future?
e. Is your work related to your doctoral thesis?
f. Are you in touch with your thesis supervisor/s?
g. Are you in touch with the department or institute which ran your doctoral programme?
h. How would you rate your doctoral programme?

When an ex alumnus opens the application, the questionnaire will appear on screen with the latest data already filled in so that he or she will only have to enter the data which have changed with respect to the last questionnaire.

Once the data have been collected from the questionnaires, the results are assessed. To this end the computer application generates an assessment report of all questionnaire results. This report will be available to the doctoral programme's quality commission in order for it to analyze the results and, as appropriate, determine improvements.

The Quality Commission's annual memorandum will also take into account the following data related to the results of the last 5 years:

- Grades achieved by doctoral theses (giving the percentage of theses awarded the distinction Cum Laude).
- European doctorates of doctorates with international mentions.
- Prizes (extraordinary doctorate prizes, or others).
- Success rate of full-time students: percentage of total full-time candidates who submit and defend their theses in 3, 4 or 5 years.
- Success rate of part-time students: percentage of total part-time candidates who submit and defend their theses in 5, 6, 7 or 8 years.

3.1.5.1 Handling incidents, complaints and suggestions

The University's General Secretariat makes available various channels to attend to any member of the university community or external user of its services who may wish to register an incident, complaint or suggestion about the activities of the various centers or administrative services. By means of its Virtual Campus and web-page, the UAH informs stakeholders of their right to register incidents, complaints or suggestions and how to do so.

There is a Complaints and Suggestions Box, the aim of which is to keep a record of complaints, ideas or suggestions about the working of the doctoral school. Interested parties may make a complaint or suggestion in two ways:

1. In person: by filling out, printing and handing in at any of the University of Alcalá's registries the form available from the UAH website.
2. Electronically: by sending the completed form to quejas.sugerencias@uah.es. An email address must be given.

When the UAH Doctoral School receives a complaint, the grounds of the grievance or incident are examined and appropriate measures are proposed with a view to solving the anomaly. At the same time, the feasibility of suggestions made is studies and their possible contribution to improving the operation or quality of the service.

Moreover, the doctoral programme coordinator or its teaching staff may receive complaints directly from the students. If so, they must inform the programme's quality commission and, where necessary, the services or personnel affected by the complaint or suggestion.

Interested parties will be notified of all action taken in the space of 20 days and advised that, should they remain dissatisfied with the measures adopted, they should appeal to superior university authorities, such as the University Ombudsman.

Each complaint or suggestion will be kept on file. If the complaint implies any abnormal functioning of the services, relevant action may be taken on a case by case basis. Under no circumstances will the complaints made be treated as administrative appeals.

On the basis of the complaints received, the University's General Secretariat produces a report about the study of the grounds and the actions taken.

Once a year the programme's quality commission examines the complaints and suggestions received in the course of the academic year; analyses the most recurrent grounds for complaint, the solution rate for complaints and the suitability or viability of suggestions. The following indicators are taken into account:

- Number of incidents per academic year.
- Number of complaints received per academic year.
- Number of suggestions received per academic year.
- Incident solution rate.
- Complaints solution rate.

Each programme's quality commission book the following reports:

- A document approving the internal investigation of incidents, complaints and suggestions.
- Incident or complaints files.
- Annual reports about incidents, complaints and suggestions received in the doctoral programme.

3.1.6 Stakeholder satisfaction

Stakeholder satisfaction is assessed by means of questionnaires targeting students, teaching staff, doctors of the School and administration and service staff.

Data from the satisfaction questionnaire for students on doctoral programs will be sent to the Quality Technical Unit, which will take charge of processing them and sending them to each doctoral programme's Quality Commission.

For teaching staff, a general questionnaire has been designed which must be completed at the end of each academic year. The data will be processed by the Quality Technical Unit and analyzed by the relevant doctoral programme's quality commission.

The satisfaction survey of administration staff related to doctoral studies will be carried out every two years. The Quality Technical Unit will process the data it generates and send it to those responsible for each doctoral degree.

The data that emerges from all these questionnaires will be analyzed annually by each doctoral programme's quality commission and presented in its Quality Memorandum.

3.1.7 Teaching and research staff training

The UAH DS plans, manages, monitors and assesses specific training activities for teaching staff which contribute to their professional development and encourage innovation and streamlining of teaching practice. This is a key activity when it comes to sharing, diffusing and conceiving innovative experiences related to the doctoral programs.

The training activities for teaching staff participating in doctoral programs may be characterized as opportunities for reflection whose purpose is to deepen awareness and knowledge of particular issues related to research supervision. The activities are open access and free and coordinated by reputed professionals belonging to the UAH or to other institutions.

As a support structure for teaching staff, the UAH's Virtual Classroom is responsible for training in the use of e-learning platforms for managing learning and teaching.

The Virtual Classroom holds beginners' and advanced level courses in the use of new methodologies and technological tools of application to teaching. Doctoral programs may make use of the Virtual Learning Unit and the virtual teaching platform, Blackboard, for any activity related to them.

Each programme's quality commission will set out in its Quality memorandum the following indicators relating to teaching staff training activities:
- Number of training activities run.
- Number of participants.
- Number of user registrations on the virtual platform, broken down into teaching staff and students.

3.1.8 Resources

Each doctoral programme makes available different material resources and support for its students: laboratories and workshops, libraries, access to databases, connectivity, and so forth, details of which are set out in the programme's

verification memorandum.

In its Quality memorandum, each doctoral programme's quality commission will analyze whether the available material resources and other facilities are sufficient to guarantee the students' research. The following indicators will be taken into account:

- Available material resources and other facilities for students.
- External resources and travel grants providing financial aid for attending conferences and for stays abroad.
- Funding of seminars, day conferences and other national and international training initiatives.
- Percentage of students who obtains post-doctoral grants or contracts.

3.1.9 Analysis, improvement and accountability

Each doctoral programme's quality commission must write an annual report stating the programme's results. This report, the Quality memorandum, will be sent to the UAH Doctoral School Quality Committee for approval. The memorandum will assess the results of the doctoral programme, achievement of the prescribed quality goals and the efficacy of improvement actions undertaken, and make recommendations for whatever new improvements may be needed. Attached to this Quality memorandum will be an annual plan of improvements.

The memorandum will be made available by whichever means are deemed appropriate to the stakeholders nominated by the quality commission. Once approved by the UAH Doctoral School, it will be sent with the rest of the programmes' memoranda to the UAH Quality Committee, which will inspect it and write a general university quality memorandum. This in turn will be brought before Governing Body by the Vice-rector responsible for matters of quality for its approval and then published appropriately in line with the UAH's Communication Plan.

4 Chapter 4: External quality assurance (EQA) mechanisms and national policies

4.1 National strategy in terms of Doctorate level and QA of Doctorate level : state of the art

The Spanish Royal Decree 99/2011 regulates the official teaching of doctorate, establishes a new normative framework that implements a new structure for the doctoral programs, adopting the guidelines of the European Higher Education Area (EHEA) and recommendations from various European and international forums. All these relate to the structure and organization of the doctorate, the competencies to be acquired, the conditions of access and the development of the research career in its initial stage, the fundamental role of the supervision and tutorship of the research training, the insertion of this training in a research environment that stimulates communication and creativity, the internationalization and mobility essential in this type of studies, and the evaluation and accreditation of the quality as reference for its recognition and international appreciation.

One of the key aspects of the new structure, defined in Royal Decree 99/2011, is related with the definition of the research and doctoral training strategy at the university. The university, according to what it establishes in their regulations, it must define its strategy in research and doctoral training, which has to be articulated through doctoral programs carried out in doctoral schools or in its other relevant research units, as established in its statutes, the respective collaboration agreements and the aforementioned royal decree. Within the framework of this strategy, each doctoral program should be designed by an academic commission.

Doctoral programs must be verified by the Board Council of Universities (BCU) and authorized in its implementation by the competent authorities (education councils from each regional government), in accordance with the provisions of article 35.2 of Organic Law 6/2001, as amended by law 4/2007, of universities. The titles to be obtained lead these doctoral programs must be registered in a unified register[9] of universities, centers and titles, in accordance with Royal Decree 1509/2008, of 12 September.

In the verification process, the BCU sends the program proposals from the universities to quality agencies, either national or regional agencies, in order to develop the relevant evaluation report, which is mandatory and decisive. The goal of processes designed for the evaluation of the proposals is to generate the information required by the administration as well as for the authorization to start the doctoral program studies.

The national regulation envisages the creation of doctoral schools and set up academic commissions for the doctoral programs, as well as the figure of doctoral

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[9] https://www.educacion.gob.es/ruct/home

program coordinator. Enter as novelty the document of activities of the doctoral student anticipating a system of supervision and monitoring of the PhD thesis and establishes for the first time a maximum period of duration of the studies of doctorate with the possibility of differentiate the student dedication to part time or full time. On the other hand, the new ordination establishes a regulation of doctoral studies which leads to a clearer distinction between the second cycle of studies (master's degree) and the third cycle (doctorate), determining also the specific criteria for the verification and evaluation of the doctoral programs.

Among the main novelties is also the anticipation that the panel boards responsible for evaluating doctoral theses should be formed mostly by doctors outside the university and other collaborating institutions. There are also other interesting aspects related to the protection of confidential data and patents of the research work and establishes the possibility of including in the PhD thesis title the mention of "International Doctor".

The royal decree, in turn establishes the organization of doctoral training and competencies to be acquired by the PhD student and the requirements for access to admission criteria. The doctoral programs should include some research training that will not require to be organized and described in terms of ECTS credits and should include both transversal training and specific to the scope of each program, although in any case the essential activity of the doctoral student is research.

The organization of such training and the procedures for its control should be reported for the verification of the doctoral programmes and it is a fundamental part for the renewal of accreditation of such programs.

Also, obtaining a Doctor's degree should provide high professional training in diverse areas, especially in those that require creativity and innovation.

Verification, monitoring and renewal of program accreditation of doctorate

Doctoral programs leading to the obtaining of the official doctorate degree must be verified by the BCU and approved by the corresponding regional government, must undergo an evaluation procedure every six years for the purpose of renewing the accreditation. In order to guarantee the quality of the doctorate and the correct development of the doctoral formation, the university must justify the existence of excellent research teams with relevant experience in the corresponding field.

The verification and accreditation of doctoral programs takes into account the percentage of researchers with accredited experience, the competitive projects in which they participate, the recent publications and the funding available to doctoral students. Also, the degree of internationalization of doctorates will be valued, with special attention to the existence of collaboration networks, the participation of professors and international students, the mobility of professors and students, and the thesis results such as joint supervision, european and international mentions, joint publications with international researchers, relevant seminars, or any other

criteria determined at this respect.

Promotion of doctoral training

The Ministry of Education establishes an annual call to grant a doctoral program with a mention "Excellence Program" to those doctoral programs to highlight their results and high level of internationalization. Additionally, the Ministry of Education establishes a call to give a mention of excellence to the doctoral schools that stand out for their prestige and special international projection.

4.2 External quality assurance policy

External quality assurance in higher education is undertaken by the national agency (ANECA) and a number of agencies within some of the autonomous regions. The competences of the quality assurance agencies vary depending on the procedures being undertaken and whether or not the agency is a member of the European Association for Quality Assurance in Higher Education (ENQA[10]) and the European Quality Assurance Register (EQAR[11]).

ANECA has established several instruments for external and independent evaluation of doctoral proposals: verification, monitoring, accreditation. All these instruments have the following common objectives:

- To ensure the quality in the design of the proposals of official doctoral programs through an improvement-oriented process.
- To ensure the linkage of the verification process with monitoring, modification and accreditation in accordance with the framework for the verification, monitoring, modification and accreditation of the official studies. In this sense, doctoral programs will have an annual monitoring process identical to that currently developed by the degree and master degrees. At the same time, the necessary actions will be promoted to incorporate and exploit the main indicators linked to the development of doctoral programmes.
- To promote the elaboration of proposals for new programs that are appropriate in content and form, both for the evaluation and for the generation of public information that is associated with the official qualifications.
- Identify proposals with *ex-ante* evaluation, in order to assess more strongly the bases that justify their formulation and the academic and research resources that will make them viable and sustainable over time.
- To ensure that both the people who prepare the proposals for official doctoral programs and the people who evaluate them share exactly the same benchmarks.

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[10] ENQA: http://www.enqa.eu

[11] EQAR: https://www.eqar.eu/

- Establish equivalent and linked evaluation procedures for the undergraduate, master and doctoral studies.

4.3   The Verification of doctoral programs

4.3.1 The evaluation committees of the quality agencies

One of the elements that contributes to guaranteeing the validity, reliability and usefulness of the external evaluation processes is the performance of the external experts (peer review). The quality and independency of the evaluation process lay down on the experts, which are constituted in commissions in which they provide the scientific-technical and disciplinary orientation, professional and as users.

4.3.2 Specific Evaluation Commissions (SEC)

The quality agency (national or regional agencies) usually set up different Specific Evaluation Commissions (SEC) for the different fields of knowledge and one specifically. They have a permanent character. The SECs are responsible for the evaluation of the programs and institutions, and therefore, the process of verification, monitoring, modification and accreditation. The SECs main function is to evaluate the sustainability and adequacy of the proposals for new studies.

The SEC have a variable number of members, which depends on the number of official degrees and university centers they evaluate. SEC can create subcommittees by scope. In particular, the SEC of official doctoral degrees has the following composition:

- the president, usually a Professor with recognized academic merits.
- at least two academic people for each of the knowledge fields.
- a PhD student.
- a secretary, usually a personal from the technical staff of the quality agency.

The SEC can be assisted by other experts of recognized prestige what advise them on specific aspects of the evaluation of the qualifications that are under their responsibility. The experts send independent technical reports that will be taken in consideration by the corresponding SEC.

4.3.3 The evaluation process

The main stages of the accreditation process are the following:

1) **Strategic planning of doctoral programs at the university.** Which doctoral programs will be implemented in the next academic year if the evaluation process of the studies is passed.
2) **Research and doctoral training strategy.** The university must present its

doctoral research and training strategy to the quality assessment agency before submitting any of their study programs for the verification process. This document will be valued by the SEC to know the justification of the implementation of such programs, which will be completed later with the information that each doctoral program includes in the verification report. The Research and Doctoral Training report must contain at least the following aspects:

- The mission of the university with regard to the research and the objectives to achieve.
- Consolidated research areas and priority lines.
- The relationship with the R&D environment (institutions involved in R&D and their funding programs).
- The instruments in the university to monitoring the activities of the research groups involved in the doctoral programs.
- The areas in which the different doctoral programmes are structured and, for each area, the programmes that form part of it (map of studies). Also is convenient to include the university master's degrees directly related.
- The management methodology and systems for doctoral training (schools of doctorate, other units involved).
- The human resources and materials currently available or previewed in the future.
- The rules of intellectual property and how to carry out doctorates in collaboration with companies.

It is recommended that the strategy in doctoral research and training be valid for at least 6 years, which is the period in which the doctoral programs must be re-accredited. Then it will be a good time to review the research strategy based on the results obtained and the situation of the R&D context.

Once the strategy has been exposed, the university will be able to present its proposals for new doctoral programs. These proposals will be grouped into the different areas specified in the strategy. That is to say, all the programmes that are part of a specific field will be presented for verification at the same time (for example, all the programs of that university in the field of biomedicine, humanities, anthropology, economy, engineering, chemistry, etc.). Thus, the CEA will be able to assess in a more appropriate way the context and the justification of the programs, their synergies, the human resources and their alignment with the research strategy and of doctoral training of the university.

3) **Request for verification.** The universities must present their proposals by means of online application that the Ministry of Education, Culture and Sport (MECD) provides to them for this purpose.

4) **Review and acceptance of the application.** The BCU will review the documentation provided and accept the request if it meets the

requirements established. Otherwise, it will be required to be corrected, for which the universities will have a period of 10 days. If the request data is accepted, the request is transferred to the relevant QAA, that will resolve it within a maximum of 9 months.

5) **Evaluation of the proposal.** The proposal shall be allocated to the SEC of doctoral programmes, which will evaluate it in accordance with the standards and criteria set out before.

6) **Preliminary verification report.** The SEC will provide a preliminary verification report, which will forward to the universities through the MECD's computer application to submit allegations, if appropriate.

7) **Interaction SEC-Program.** The responsible of program/university may interact with the SEC commission through its secretary, who will have to enable the relevant mechanisms to solve the questions or require some clarification from other members. If necessary, a meeting will be held between the programme managers and the members of the SEC.

8) **Allegations.** Within approximately 20 days, the institution may submit the allegations it deems appropriate to the previous report for the SEC to take into consideration. The allegations must resolve those aspects that SEC has indicated in the preliminary report.

9) **Review of Allegations.** SEC will evaluate the new proposal made by the institution and analyze whether the possible deficiencies detected have been corrected.

10) **Final report.** After evaluating the allegations presented, the SEC will provide, through the MECD's computer platform, the final verification report for the BCU take it into consideration. The outcome of the report shall be expressed in terms of favourable or unfavourable.

11) **Verification resolution.** Once received the QAA report, the BCU will resolve the verification or not of the proposal of new program that carries out the university institution.

12) **Appeals.** The university may appeal against this decision within a maximum period of one month from its notification. If the resource is admitted to process, the BCU must send it to QAA within a maximum of 3 months.

13) **Appeal resolution.** The complaint will be assessed by the Appeals Commission, which shall request at least two academics from the doctorate programme, external to the SEC and without regard to the preliminary evaluation of the proposal. The review of the appeal shall be based solely on the report proposed by the University and on all the documentation contained in the dossier. The additional information provided during the evaluation process will not be considered unless there is any clarification of the information presented initially.

14) **Appeal report.** Within one month, the appeals committee must issue the corresponding report, which shall be transferred to BCU.

15) **Resolution on the appeal.** Once the appeal report has been received, the

BCU will issue a definitive resolution within 2 months, which must be exhausted by the administrative route. The decision will be communicated to the university, the regional government and the national MECD. The lack of resolution expressed in this period will allow to consider the appeal as dismissed.

4.3.4 Standards and evaluation criteria

The following aspects should be assessed to verify a new doctoral programme proposal:

1. Description of the doctoral program.
2. Competences.
3. Access and admission of students.
4. Training activities.
5. Organization of the programme.
6. Human resources.
7. Material resources and support services available to doctoral students.
8. Review, improvement and results of the program.

The structure of the evaluation protocol to request verification of the proposal, responds to the logic (answering questions) that is shown below:

4.3.4.1 What is the aim of the program and why is it proposed?

First of all, it is required to set the definition of the study with respect to the aspects that administratively identify the proposal and those that justify its interest and need, besides to the training profile intended.

4.3.4.2 How will it be achieved?

The programme's training objectives must be achieved through the quality assurance of the following processes:

- The access and admission of students, who set up the starting point of the formative process, and the supervision and monitoring actions of the PhD student, together with the formative actions of the proposal, to ensure that students reach the training profile intended.
- The planning of training activities, which designs, organizes and implements the training, monitoring and evaluation activities aimed at achieving the profile of formation that is intended.
- The human resources and material resources and support needed to reach the training profile.

4.3.4.3 *What results are expected and how will their achievement be guaranteed?*

The expected results expressed in quantitative values of the indicators and the quality assurance mechanisms will allow the monitoring, review and improvement of the official doctorate programmes and the procedures, in order to ensure the achievement of the profile established according to the results obtained or their modification if necessary.

4.4   The processes of Monitoring and Accreditation of doctoral programs

The monitoring of doctoral programs has two fundamental objectives. On the one hand, it must be a useful tool for the management of the university enabling the internal evaluation of its development using the analysis of the values of certain indicators (thesis defended, insertion of the doctoral students, satisfaction of the doctoral students and professors, etc.), in order to be able to diagnose the reality and develop proposals for improvement. On the other hand, the monitoring, along with the visit that will be made to the centres of study, **will be the main evidence for the accreditation of doctoral programs.**

The objective is to make the process of consideration about the development of doctoral programs the basis for earning the accreditation. In other words, the accreditation is set as the culmination of the monitoring process. The idea is to understand both processes as a single one: a process of continuous improvement culminating with the external validation of the obtained results.

To achieve this objective, it is essential that the evidences consulted during the monitoring process coincide with those necessary to accredit the programs and, among them, the key is the self-report.

The monitoring reports of doctoral programs (ISPD) should reflect on the six same dimensions that are taken into account in the accreditation process: training program, public information, the adequacy of professors to the program, the effectiveness of learning support systems, the internal quality assurance system, and the review, improvement and quality of the program results. This reflection in the form of a monitoring report should be produced *at least every three years*. However, programs and institutions should tend to implement mechanisms to obtain the main development and academic results indicators from each course.

This structure of the monitoring report must be identical to the self-report for accreditation in order to make the integration of both processes effective. In this way, the latest monitoring report will become the self-report and should provide a reflection of the synthesis of the doctoral program's development since the verification or last accreditation.

Universities should submit to the *Quality Assessment Agency* the monitoring reports prepared until the first accreditation of the programs. Periodically, the Agency will

select some of the received ISPD's to be evaluated, prioritizing the reports of the doctoral programs that the universities themselves identify that require special attention, those that contain proposals of significative modifications and those that are considered appropriate according to the analysis of their development indicators.

Each university shall, preferably each year, prepare a university monitoring report (ISU) to be used to assess the monitoring process in the institution, the detected problems in the development of the programs and their academic results, the actions of improvement proposed or implemented and the detection of good practices that can be disseminated in the whole of the institution. This report has no style requisites and covers programs that have made a monitoring report in that academic year. It is compulsory to send them to the Quality Agency until all of the institution's doctoral programs have been accredited for the first time. In universities where doctoral programs are under the responsibility of a doctoral school, the ISU becomes the school's report.

According to the VSMA framework, the modifications of the doctoral programs are linked to the previous analysis carried out in the monitoring process, so that significative changes may be requested only if an ISPD has been prepared and is therefore linked to the reflection stemmed from said report. (The intervening evaluation committees are those described in section 4.3.1)

4.4.1 Evaluation of the Monitoring Process

The phases of the monitoring process are:

- **Elaboration of the ISPD.** The program ponders on the development of the study and elaborates the corresponding report according to what establishes its SGIQ and the standards and criteria of this guide. This report must follow a fixed structure done supplied by the Agencies.
- **Selection of the ISPD.** The Quality Agency will inform the universities about the ISC to be selected for evaluation annually. It will be possible to prioritize the reports of those doctoral programs that the universities identify as requiring special attention, those that contain proposals of significative modification and those considered appropriate according to the analysis their development indicators.
- **Evaluation of the ISPD.** One of the fundamental aspects of this evaluation will be to assess, on the one hand, the development of the doctorate program and, on the other, the adequacy and relevance of the monitoring process and its report.
- **Evaluation report.** Quality Assessment Agency will send the ISPD evaluation reports approved by the CEA to the universities.
- **Allegations.** Within a period of approximately one month, the institution may submit any allegations it deems appropriate to the prior reports for the Appeals Committee to take into consideration and resolve the appeal.

4.4.2 Elaboration of monitoring reports (ISPD)

The processes associated with the teaching quality assurance are described in the Systems of Internal Quality Assurance (SGIC) of the institutions, which must have as main objective the continuous improvement of the doctoral programs and the scope of the objective of accreditation. Therefore, the SGIC is the main source of information necessary for the doctoral programs monitoring and as the key instrument for its accreditation.

To guarantee the quality of the process, the ISPD must be, among other things:

- Complete, rigorous and concrete. It must analyze and ponder the elements considered key to the situation to be analyzed and improved.
- Based on evidence generated throughout the development of the program.
- Systematic and detailed regarding the analysis of the causes and, therefore, of what is necessary to undertake the improvements.
- Balanced, both in positive aspects and in aspects that need to be improved.
- Shared and validated by the university community, to ensure its representativeness in the analysis, in accordance with the procedures established in the SGIC.

4.4.2.1 ISPD elaboration stages

ISPD elaboration responsibility

The responsibility for the elaboration and approval of the monitoring report shall be established by the SGIC. The established body should take into account the opinion of the different interest groups of the doctoral program, such as academics, teaching and administrative staff, doctoral students and other collectives deemed appropriate.

The last ISPD prior to the accreditation process will correspond to the self-report for the accreditation visit and, therefore, must also undergo a public presentation open to the entire educational community linked to the program.

Information collection systematics

The elaboration of the ISPD will take into account all those evidences and all those indicators that derive from the procedures contemplated in the SGIC. Data and analyses from both the doctoral program and the pertinent centre must be kept in mind. The information may be of a quantitative or qualitative nature, and include from management data and indicators on the *inputs* or entries to processes and results of the center or doctoral school activity.

Once all the information is available, the responsible entity will have to analyze and reflect on the total volume of data, in order to meet the established standards and define an improvement plan.

The last ISPD of the accreditation process must cover the period between verification and the time of the external visit for accreditation.

4.4.2.2 Contents of the ISPD

The institution should reflect on whether the quality standards of accreditation are being achieved or, on the contrary, it is necessary to implement actions in order to succeed. It is displayed as a document articulated in the same six sections that should be used in the accreditation process.

1. Presentation of the programme. In this section the institution must provide an overview of the program to set the background for the reader of the report. Thus, data can be provided on the most significant achievements of the program's trajectory (number of doctoral students and doctorates, teaching staff and its typology, etc.).

2. ISPD elaboration process. The institution should briefly describe the process followed in the elaboration of the ISPD, stressing whether there have been problems in the process (data collection, etc.) or discrepancies with respect to what was expected in the SGIC. It must clearly state the responsible body, the elaboration period, the body and the date of its approval.

It is essential that the ISPD becomes the main tool for the modification or accreditation of doctoral programs, as such the period in which it is produced is very relevant, and must be always previous and linked to the launching of these processes. Any deviation from the expected timing must be clearly indicated.

3. Assessment of the scope of the standards In this section, the institution must develop an evidence-based argument about the extent of the standards.

Depending on the standard in question, the doctoral program and/or the institution must carry out an assessment by referring directly to the most significant data that show the standards observance. In each case the degree of fulfillment of the intended objectives and the scope of the established specifications (for example, has the intended number of defended thesis been reached, or is the number of lines of research reasonable, etc.). The standards to be considered are as follows:

1. Formative program quality.
2. Public information relevance.
3. Suitable teaching staff.
4. Learning support systems effectiveness.
5. Internal quality guarantee system efficiency.
6. Quality of results.

It is advised to include an evaluation of the scope of each these standards in the ISPD. In this sense, the institution can use the following scale values:

- *In progress towards excellence.* The standard is fully achieved and there are also examples of good practices that exceed the minimum

required.

- *Has been reached*. The standard is fully achieved in the doctoral program.
- *Has been reached with exceptions*. A minimum level of the standard has been reached, but there are aspects that must be improved. These aspects can be improved in a reasonable period of time.
- *It's not enough*. The doctoral program does not get the minimum required level to reach the corresponding standard. The improvements that must be introduced are of such magnitude that it is not possible to reach the standard in a reasonable time span.

4. Evaluation and proposal of the improvement plan

The doctoral program should analyze and reflect on its functioning and development. This reflection should be based on both public information and data, the indicators and qualitative information derived from its SGIC. If the institution considers it opportune, a global assessment can be made to summarize the development of the program.

Taking into account the evaluative analysis, improvement actions must be planned (detailing and defining a time schedule and responsibilities). The effectiveness of these actions may be greater if linked to the objectives and results of the program indicators.

It must also give specific answers to the actions that had been proposed and planned in the ISPD of the previous period, confirming those that have been implemented and explaining the failure of those that were not carried out and set to the following period.

5. Evidence

Evidences must be taken into account during the elaboration of the ISPD and only the most relevant should be enclosed in the elaboration of the self-report for the accreditation.

4.4.2.3 University monitoring reports (ISU)

Taking into account the ISPD, the university will evaluate the development of all its doctoral programs. The incidents that may have occurred during the elaboration and approval of the ISPC should be specified. The ISU will focus on those doctoral programs that require special attention and on those that stand out for their excellent implementation and excellent development. The report will also collect, where appropriate, interdisciplinary improvement actions to promote the improved development and monitoring of all programs. The university will decide the most appropriate model and structure for that report. In the event that the university has a doctorate school, the preparation of the ISU will be the responsibility of this center.

4.4.3 Evaluation standards and criteria

4.4.3.1 Quality of the training program

The institutions must have processes within their SGIC that allow the design and approval of doctoral programs, in a manner consistent with European standards and guidelines for the internal quality assurance in HEI, especially the ESG 1.2 (approval, control and periodic review of programs and studies), which recommends that "academic institutions should have formal mechanisms for approving, evaluating and periodically monitoring their programs and qualifications» (ENQA, 2005).

Those responsible for the doctoral program should analyze whether the design of the program (lines of research, competencies and formative activities profile) is updated according to the requirements of the discipline and responds to the formative level required in the MECES:

The program has mechanisms to ensure that the doctoral candidates' enrollment profile is adequate and their number is consistent with the characteristics and distribution of the research lines of the program and the number of vacancies offered.

The program has adequate supervisory mechanisms for doctoral students and, where appropriate, training activities.

Indicators that need to be considered to evaluate this standard are as follows:

- Offer and demand.
- Students enrolled (each new income).
- Total number of students enrolled.
- Percentage of foreign students enrolled.
- Percentage of students from other universities.
- Percentage of students enrolled part-time.
- Percentage of students with scholarship.
- Percentage of students according to access requirements.
- Percentage of students according to research line.

4.4.4 Relevance of public information

According to ESG 1.7 (public information), "Institutions must regularly publish updated, impartial and objective information, both quantitatively and qualitatively, about programmes and qualifications they offer."

This information should be public and easily accessible to the whole society and should include information about operational development of the doctoral program and the results derived therefrom.

On the other hand, the ESG 1.1 (policy and procedures for quality assurance) states that "The strategy, policy and procedures must have a formal status and be publicly available." Therefore, the institution should also report on the SGIC and, especially,

on the monitoring and accreditation processes of the doctoral program.

The publication of the information guarantees transparency and facilitates accountability, in line with European benchmarks on quality in higher education. Specifically, regarding to ESG 1.6 (information systems), "institutions must ensure that they collect, analyse and use relevant information for the effective management of their curricula and other activities".

To ensure the quality of public information, institutions should periodically reflect about the validity, relevance and updating of public information, accessibility, and continuous improvement of quality guarantee processes.

The institution is therefore expected to analyze whether it adequately informs all stakeholders on the characteristics of the doctoral program and on the management processes that guarantee its quality.

The institution publishes truthful, complete and updated information of the doctoral program characteristics, its operational development and the results obtained.

The institution guarantees an easy access to the relevant information of the doctoral program to all stakeholders. This information includes the monitoring results and, if applicable, its accreditation.

The institution publishes the SGIC in which the doctoral program is framed.

Evidences that need to be considered to evaluate this standard is as follows:

- Institution web or Study web (University).
- Documentation of Processes of the SGIC about public information, collection of information and accountability (University).

4.4.5 Efficiency of the internal quality assurance system

This section must respond to ESG Point 1.1, which states that ' institutions must have a policy of procedures associated with guaranteeing the quality and criteria of their programs and qualifications.

They must also explicitly engage in the development of a policy that recognizes the importance of quality and quality assurance in their work. To achieve this goal, a strategy for continuous quality improvement must be developed and implemented. The strategy, policy and procedures must have a formal status and be publicly available. The role of students and other stakeholders should also be taken into account. This section also replies to the ESG 1.2, which recommends that "academic institutions should have formal mechanisms to approve, evaluate and periodically monitor their programs and studies."

Those responsible for the doctoral program should analyse on whether it has an IQA system formally established and implemented that ensures, in an efficient way, the quality and the continuous improvement of the doctorate program

The implemented SGIC facilitates the design and approval processes of the doctoral program, its monitoring and its accreditation.

The implemented SGIC guarantees the collection of information and relevant results for the efficient management of doctoral programs.

The implemented SGIC is periodically reviewed to analyze its suitability and propose improvement plans to optimize it.

Evidences that need to be considered to evaluate this standard is as follows:

- Documentation of the SGIC (University):
  - Process of design and approval of doctoral programs.
  - Process of monitoring of doctoral programs.
  - Accreditation process for doctoral programs.
  - SGIC review process.
- Plans and monitoring of the improvement actions of the doctoral program (University).
- Tools that allow to know the degree of satisfaction of the interest groups (University).

4.4.6 Teaching staff quality and suitability

Teaching staff must have the experience and training appropriate to the objectives of the doctoral program, and be sufficient in number and dedication to assume their main functions: tutoring and Thesis management, the teaching and evaluation of the training activities, and if applicable the management of the program, etc.

Ensuring the quality and suitability of teaching staff responds directly to European standards for internal quality assurance in HEI. Specifically, the ESG 1.4 (Teaching staff quality assurance) recommends that "Institutions should find the adequate system to ensure professors are trained and competent". This system should be made available to persons conducting the external assessment and must be detailed in the relevant reports ' (ENQA, 2005).

Those responsible for the doctoral program should analyze on whether number of teachers is sufficient and appropriate, according to the characteristics of the doctoral program, the scientific field and the number of students.

Teaching staff have an accredited research activity.

Teaching staff are sufficient and have the proper dedication to develop their functions.

The doctoral program has the appropriate framework to promote the thesis management.

Participation of foreign professors and international doctors in monitoring commissions and thesis committees is adequate in the scientific field of the program.

Those responsible for the doctoral program should analyze on the maintenance of the initial conditions (in verification process), specially on the following aspects:

- The accredited experience of the teaching and research staff.
- The quality of scientific contributions.
- The number of ongoing competitive research projects.
- The international activity of professors.

Evidences that needs to be considered to evaluate this standard is as follows:

- Competitive research projects ongoing in which the IP is a professor in the doctoral program (University).
- Professors who participate in ongoing competitive research projects (University).
- Relevant scientific contributions of the professors in the field of the program (University).
- Foreign professors supervising doctoral theses and which teach training activities (University).
- Results of the promotion actions for advising doctoral theses (university).
- If applicable, a training plan or SGIC documents related to the teaching staff quality assurance, human resources policies, etc. may be considered.

Indicators that need to be considered to evaluate this standard are as follows:

- Number of supervisors of the defended thesis (University).
- Recognized research periods (six-years period) of the thesis supervisors (university).

4.4.7 Effectiveness of learning support systems

In addition to the teaching and research staff, the institutions make available to doctoral students different services and resources to motivate, facilitate and enrich their learning. In this context, the ESG 1.5 (learning resources and student support) recommends: "Institutions must ensure that the available resources to support student learning are adequate and appropriate for each program " (ENQA, 2005).

The institution is therefore expected to analyze on whether material resources and services needed for developing the envisaged activities in the doctorate program and for training the doctoral student are sufficient and appropriate to the number of doctoral students and to the characteristics of the program.

This section refers to all the services and resources that contribute to the support of learning.

The available material resources are suitable for the number of doctoral students and the characteristics of the doctoral program.

The services available to doctoral students adequately support the learning process and facilitate the insertion into the labor market.

The scope of this section includes:

- Material resources, such as facilities (workspaces for doctoral students, laboratories, computer rooms, libraries, etc.), technological infrastructures, equipment and scientific-technical material, etc.
- Services, mainly those of reception and other logistical benefits (housing, advice on legal matters regarding the residence, etc.), academic orientation (scholarships, mobility, projects, etc.) and professional orientation and labour insertion.

The evidence to be considered to evaluate this standard is as follows:

- Documentation of the SGIC on the process of quality assurance of material resources (University).
- Institutional plans to facilitate Labour insertion (university).
- Documentation of the SGIC on the process of support and orientation to doctoral students (university).

The indicators that need to be considered to evaluate this standard are as follows:

- Doctoral students' satisfaction with the studies (University).
- Satisfaction of the thesis supervisors with the studies (University).

4.4.8 Quality of results

Evaluation of learning in the elaboration of the doctoral thesis is the process that allows to determine the degree of results achievement, as the ESG 1.3 (student evaluation) includes, which recommends: «The students must be evaluated using criteria, standards and procedures that are published, and applied in a coherent manner ' (ENQA, 2005). Both the doctoral theses and the formative activities and the evaluation system must be pertinent, public and appropriate to certify the learning reflected in the training profile. The adequacy of the evaluation system implies a judgement on their relevance (validity) and an assessment of the extent to which these activities discriminate and ensure their quality (reliability).

The results of the labour insertion of the doctors also have to be valued in this section, since they are one of the key results of the university formation. This section should take advantage of the wealth of the information system of universities about this aspect, which allows a contextualized analysis of its main indicators.

Those responsible of doctoral program is expected to analyze on whether doctoral theses, formative activities and evaluation are consistent with the training profile. And whether the quantitative results of the academic and labour insertion indicators are adequate.

- Doctoral theses, training activities and their evaluation are consistent with the pretended formative profile.
- Values of the academic indicators are suitable for the characteristics of the

doctoral program.

- Values of the labour insertion indicators are suitable for the characteristics of the doctoral program.

Evidences that need to be considered to evaluate this standard is as follows:

- Documentation of the SGIC on the processes associated with the development of the doctorate program and the collection and analysis of the results for the improvement (University).
- Doctoral theses generated within the framework of the doctorate program (University).
- Information about training activities and evaluation systems (University).

Indicators that need to be considered to evaluate this standard are as follows:

- Number of full-time defended theses.
- Number of part-time defended theses.
- Average length of the full-time doctoral program.
- Average length of part-time doctoral program.
- Percentage of students that do not complete the program.
- Percentage of theses with the Laude qualification.
- Percentage of doctors with international mention.
- Number of scientific contributions of doctoral theses.
- Percentage of students that complete research stays.
- Employment rate.
- Rate of suitable employments regarding doctoral studies.