
Centre monitoring report

Doctoral School

Academic year 2019-2020 / 2020-2021

21 December 2021

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1. Basic identification details

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Body and date of approval	<i>Doctoral School Management Committee, 21 December 2021</i>

Programme name	RUCT code	Year implemented	Validation	Modification	Accreditation
Doctoral programme in the Information and Knowledge Society	5600386	2013/2014	25/09/2013	14/03/2016	15/10/2019
Doctoral programme in Education and ICT (E-learning)	5600387	2013/2014	23/07/2013	14/03/2016	15/10/2019
Doctoral programme in Network and Information Technologies	5600006	2013/2014	28/12/2012	14/03/2016	15/10/2019
Doctoral programme in Health and Psychology	5601428	2020/2021	17/12/2019	-	-

2. Preparation of the report

The Doctoral School's centre monitoring report has been drawn up by the director of the Doctoral School with support from the Management Committee, whose members are as follows:

- Dr David Masip Rodó (director of the Doctoral School)
- Dr Mireia Fernández-Ardèvol (director of the Information and Knowledge Society programme)
- Dr Iolanda García González (director of the Education and ICT [E-learning] programme)
- Dr Ferran Adelantado Freixer (director of the Network and Information Technologies programme)
- Dr Rubén Nieto Luna (director of the Health and Psychology programme)
- Marga Franco i Casamitjana (doctoral programme manager)

This report is based on the doctoral programme monitoring reports prepared by the corresponding academic committees for each programme, applying the following procedure:

- The data used to the prepare the reports are reviewed.
- A first version of the report is prepared by the programme coordinator, based on information provided by each member of the teaching staff.
- This first version of the programme monitoring report is submitted to the Planning and Quality department.
- The academic committee meets to unify this first version.
- The report is reviewed and signed off, taking into account the contributions received from the academic committee.

Once the doctoral programme monitoring reports have been prepared, the procedure is as follows:

- The reports are assessed by the Doctoral School Management Committee to commence the preparatory work on the Doctoral School's centre monitoring report.
- Once the first version of the Doctoral School's centre monitoring report has been prepared it is submitted to the Planning and Quality department.
- The Doctoral School management makes any changes necessary based on the feedback received from the Planning and Quality department.
- Finally, when the report is completed, it is reviewed and presented, together with the doctoral programme monitoring reports, to the Management Committee (see Section 1, "Basic identification details"). All the reports were validated and approved on 21 December 2021.
- Delivery of all the reports to the Planning and Quality department.

3. Follow-up on requirements and recommendations from external assessment procedures

Code	Description in original final external assessment report	Response	Current status
Doctoral School			
PM-AC-2019_01	<i>With regard to the courses offered within the three programmes, it is suggested that a course be added on how researchers can build an online profile, covering the researcher's choice of name, and the creation and maintenance of a profile on platforms such as ORCID, ResearcherID, Scopus, Google Scholar and ResearchGate. An online identity is a researcher's personal brand. It is therefore important that they work to develop and maintain suitable online profiles.</i>	The Library holds a Library Workshop called "Where to Publish", where ORCID and Google Scholar profiles are explained. It also organizes training for research staff with contracts (scientific communication and dissemination training) and a researcher's kit is provided to doctoral students.	Resolved
PM-AC-2019_02	<i>The surveys show that a significant percentage of students are not satisfied with the follow-up they receive from their thesis supervisor (50% on the "Information and Knowledge Society" programme, and</i>	Numerous measures have been taken to improve how thesis supervisors monitor doctoral students, including training for supervisors, involving them in the programme, etc. The indicators for thesis	Resolved

Code	Description in original final external assessment report	Response	Current status
	30-40% on the "Education and ICT" and "Network and Information Technologies" programmes). In the self-assessment reports for the accreditation of the programme they indicate that they would like proposals for improvement to be implemented, but these are not specified.	supervisors obtained the highest satisfaction scores in the surveys completed by doctoral students.	
PM-AC-2019_03	S2: Although the institution publishes accurate information, efforts should be made to make it more complete and up to date.	Numerous measures have been taken, or are in progress, to provide more complete and up-to-date public information on the doctoral programmes (see Annex 2, "Centre improvement plan").	In progress
PM-AC-2019_04	The University does not give access to all the results and satisfaction scores for the programme. With regard to the results, the self-assessment reports state that the website for each programme should include a Quality and results tab containing the annual monitoring reports, academic results, satisfaction with the programme and employment outcomes. It is recommended that this section should include all the indicators in Table 1.2 of the "Guide to the accreditation of recognised PhD programmes" published by AQU Catalunya. The information provided for each thesis in the "Doctoral theses" section is not the same for all cases and it is not complete. Scant details are provided for some (programme, author, date and supervisor). In other cases, however, additional details are provided, but the links do not work.	The <i>Study at the UOC</i> page on the website provides key information on the features of each programme, with links to a <i>Quality</i> area from which the academic results portal, satisfaction scores and quality reports can be accessed: https://estudis.uoc.edu/ca/qualitat-titulacio . We believe these pages provide sufficient response to the recommendations put forward, with a single, user-friendly source of information. With regard to information on the theses and their results, this information is currently posted on the Doctoral School website, with a showcase of published theses and news articles on the scientific results of the theses. The UOC Library also publishes the theses in the O2 repository.	Resolved
PM-AC-2019_05	So that students do not have to scroll down too much when they visit each programme's website, an architecture based on sections and subsections is recommended, within which there are categories and sub-categories that link to other pages.	The Doctoral School's website has been developed using responsive technology and each programme's page is based on a unified structure, using sections that comply with the recommendation put forward.	Resolved
PM-AC-2019_06	The University gives stakeholders access to external assessment reports on the monitoring and assessment processes carried out for the three doctoral programmes: https://www.uoc.edu/portal/es/qualitat/qualitat-titulacions/avaluacio-titulacions/escola-doctorat/index.html However, it is recommended that this information be accessible on the Doctoral School's own website, and specifically on each programme's page.	The <i>Study at the UOC</i> page on the website provides key information on the features of each programme, with links to a <i>Quality</i> area from which the academic results portal, satisfaction scores and quality reports can be accessed: https://estudis.uoc.edu/ca/qualitat-titulacio . We believe these pages provide sufficient response to the recommendations put forward, with a single, user-friendly source of information.	Resolved
PM-AC-2019_07	The website does not provide accountability information from the UOC's	See PM-AC-2019_03/04 responding to the recommendations put forward.	In progress

Code	Description in original final external assessment report	Response	Current status
	<i>Internal Quality Assurance System. This information should be added and may include quality indicators for the results of each doctoral programme, the scientific contributions of the doctoral students and a document containing the theses defended (this is included in the improvement plan for the three programmes). With regard to this last point, the following information should be included: doctoral programme, author's name, thesis title, date defended, years from enrolment to defence, the qualification obtained, mentions obtained, international experts taking part in the joint supervision of the thesis, the defence or preparation of the thesis, and a link to the thesis.</i>		
PM-AC-2019_08	<i>Sub-standard 3.3 must be reviewed for all three programmes. Based on all the information available, there is insufficient evidence of the continuous improvement strategy in place for the three doctoral programmes, although there are established tools for collecting evidence on the performance of the programmes, in varying stages of development.</i>	The correct operational performance of the programmes is constantly evaluated via the monitoring work carried out by thesis supervisors, and the regular activities of the academic committees for each doctoral programme and the School's Executive Board. The biannual preparation of centre monitoring reports and programme monitoring reports has been systematized since the 2018/2019 academic year to ensure all key issues are analysed in detail and the actions identified for ongoing improvement are closely monitored.	Resolved
PM-AC-2019_09	<i>In the three self-assessment reports, following the recommendation made by AQU Catalunya in the 2016/2017 monitoring report on the Network and Information Technologies programme, it was indicated that the surveys completed by doctoral students and thesis supervisors already include qualitative fields. This information has not, however, been provided.</i>	Since the 2019/2020 academic year, surveys have been sent as standard practice to doctoral students and thesis supervisors and now include a range of qualitative assessments, including open question fields and statements such as "the thesis supervisor helps me to develop interdisciplinary skills", "the thesis supervisor gives clear, concise instructions", "the thesis supervisor attends to my needs" and "the research lines of the doctoral programme are well defined".	Resolved
PM-AC-2019_10	<i>Full-time doctoral students, i.e., those studying on-site, have access to communication and time-management software, data storage, corporate technological support and a personal workstation. Part-time students, i.e., those studying off-site, should also have access to these resources. They should also have access to workspaces on the UOC's premises if they should need them.</i>	The University offers all doctoral students, both full-time and part-time, the resources and technological support they need, and encourages the use of open-source software. With regard to making a workstation available to part-time doctoral students and giving them access to the UOC's premises where necessary, our educational model and the nature of our student body mean their physical presence is only rarely required. In all cases any potential needs in this area are	Resolved

Code	Description in original final external assessment report	Response	Current status
		attended to on an individual basis when necessary.	
PM-AC-2019_11	<i>It is suggested that a complaints and suggestions box be added to the Doctoral School's website, giving students the opportunity to make proposals, support new initiatives and, where necessary, submit complaints that can lead to improvements in the service provided.</i>	The Help Service on the Virtual Campus provides a centralized channel that allows anyone to submit complaints or suggestions, which are referred to the appropriate team or person in accordance with the procedures established in the IQAS. With regard to issues concerning the specific functioning of the doctoral programmes, all doctoral students have access within the Virtual Campus to the School's generic mailbox and to those of each programme coordinator, researchers for each research line, etc.	Ruled out
PM-AC-2019_12	<i>It is recommended that the activities for acclimatizing new doctoral students include a welcome and orientation session, or "kick-off meeting", presenting the programme, its research lines, planned training activities, and so on. This session may be broadcast live via YouTube or Periscope. An annual call for an extraordinary doctoral award could also be implemented, recognizing the merit and outstanding nature of the doctoral theses produced at the UOC.</i>	This welcome activity (which can be attended in person or online, to facilitate the attendance of doctoral students living outside Catalonia, who comprise the majority), has been organized for some years now. Since the start, a guide has also been prepared and provided to all doctoral students containing all the general information on each programme. With regard to extraordinary awards, these are presented annually in line with the UOC's Academic Regulations.	Resolved
PM-AC-2019_13	<i>It is considered necessary that doctoral thesis supervisors also complete satisfaction surveys, in order to understand their views and detect potential issues in the student's thesis development process. This aspect was implemented in the 2017/2018 academic year for the Information and Knowledge Society and the Education and ICT programmes, which is very positive, but no analysis of the content of these surveys has been provided. Outgoing doctoral students have not been asked to complete satisfaction surveys either (this is included in the improvement plan). In addition, as no satisfaction data is available on the training courses, it is recommended that a satisfaction survey be added to the end of each activity. The self-assessment reports also contained a proposal to establish a monitoring process for thesis plans as an indicator of quality. However, there is no explanation of how this will be implemented or what work will be done in this respect.</i>	The procedure for sending out surveys has been unified since the 2019/2020 academic year. The catalogue includes: - Assessment of the courses taken on the doctoral programme (Students who have taken courses on the programme - every semester) - Assessment of the doctoral programme / thesis supervisor (Students on the doctoral programme - every semester) - Assessment of doctoral graduates (Doctoral students who have completed their studies - annual) Assessment of the doctoral programmes (Doctoral thesis supervisors - annual)	Resolved
Doctoral programme in Education and ICT (E-learning)			

Code	Description in original final external assessment report	Response	Current status
PM-AC-2019_16	<i>A number of proposals for completing and improving the usability of public information.</i>	Measures for configuring and improving public information are handled at centre level.	Ruled out
PM-AC-2019_17	<i>Approximately 60% of the teaching staff on the programme have research accreditation. It is recommended to continue working to improve this percentage.</i>	The percentage of active teaching staff on the programme with research accreditation is 52%. However, 72% of teaching staff have ongoing recognized six-year research periods. This suggests that a large part of the active teaching staff are still at a junior level and are expected to obtain accreditation in the next few years. Nevertheless, we will continue monitoring to ensure new teaching staff have accreditation or a strong research profile.	In progress
PM-AC-2019_18	<i>Although some theses are jointly supervised by external teaching staff and the thesis panels have some international members, there is room for improvement on this indicator.</i>	Work is ongoing to increase the involvement of external and international teaching staff, both as co-supervisors and as members of thesis panels and external assessment committees. It has been incorporated as a decision-making factor by the programme's Academic Committee and specific recommendations have been drawn up for the teaching staff involved. However, it is difficult to express this involvement in statistical terms. The programme's Academic Committee has decided to establish a panel of experts for the research lines, who make a commitment to act as external assessors when the theses are submitted. It is hoped that explicitly linking external and foreign teaching staff to the programme via this panel will create more opportunities for the joint supervision of theses.	In progress
PM-AC-2019_19	<i>Very few theses have received international mentions and this indicator needs to be developed.</i>	Due to the pandemic, it has been very difficult to organize foreign placements and therefore to obtain international mentions. We are actively working on this issue with grant-holding doctoral students to help them partake in predoctoral placements that could lead to an international mention. It must be borne in mind, however, that most of the programme's doctoral students are part time (85%), often based in other regions and countries, and with little time available to partake in foreign placements.	In progress
PM-AC-2019_20	<i>No full-time student has defended a thesis since the 2014/2015 academic year. A useful measure would be to increase the number of predoctoral grants available, as specified by the Network and Information Technologies programme.</i>	The UOC has increased the number of predoctoral grants awarded in the last four years. Since the 2014/2015 academic year, seven full-time doctoral students have defended their theses and there are currently 11 further full-time doctoral students who are expected to gain their doctorates in the next few years.	Resolved

Code	Description in original final external assessment report	Response	Current status
Doctoral programme in Health and Psychology			
MO-VE-2019_01	<i>Twenty-eight faculty members involved in this programme do not have recent experience of supervising theses.</i>	<p>Since the assessment there have been changes in the composition of the programme's teaching staff, and the existing staff have gained experience. The number of staff with ongoing recognized six-year research periods has increased to 69.77% (61.9% when the report was submitted); two have obtained advanced research accreditation, bringing the number of programmes teaching staff with this accreditation up to nine (18.6%); 16 have AQU research accreditations (20.93%), and the level of experience in supervising theses has increased notably.</p> <p>A number of measures have also been taken to train staff to supervise theses (workshops, resource repositories, etc.) and steps have been taken so that the composition of thesis committees ensures that researchers with no previous experience of supervising a thesis are "mentored", with more theses being co-supervised. (See S4 for detailed figures.)</p>	In progress
MO-VE-2019_02	<i>The quality and impact of the scientific contributions made by the theses produced by this programme (given the poor productivity of the theses submitted to support the thesis supervision experience of the teaching staff on this programme).</i>	<p>As it has only been one year since the first doctoral students joined the programme, it is difficult to assess the results generated by the theses produced by this first cohort. Nevertheless, a preventive analysis, based on the results of this first year and an evaluation of the candidates' research plans and the thesis productivity indicators that can be derived to date, suggests that the number and quality of articles published by (or submitted to) high impact journals, and/or presented at international events as the result of work on the theses, are appropriate for this programme. Specific steps have been taken, however, to train students. (See S6 for detailed figures.)</p>	In progress
MO-VE-2019_03	<i>The success rate and drop-out rate over time.</i>	<p>As it has only been one year since the first doctoral students joined the programme, it is premature to calculate these indicators for this first cohort. Nevertheless, a preventive analysis, based on the results of this first year and an evaluation of the work done by the doctoral students to date and the ongoing mentoring and monitoring actions carried out, suggests that the benchmark indicators are appropriate for this programme and are in line with the expected scores in the report:</p>	In progress

Code	Description in original final external assessment report	Response	Current status
		Drop-out rate: 30% Full-time success rate (3 years): 50% Full-time success rate (4 years): 60% Part-time success rate (3 years): 5% Part-time success rate (4 years): 15% (See S6 for detailed figures.)	
Doctoral programme in the Information and Knowledge Society			
PM-AC-2019_22	<i>A number of proposals for completing and improving the usability of public information.</i>	Measures for configuring and improving public information are handled at centre level.	Ruled out
PM-AC-2019_24	<i>The research activities carried out under this programme are highly diverse and dispersed, making it difficult to develop a programme profile.</i>	The interdisciplinary nature of the programme means the academic activities offered under it are highly varied. As new doctoral programmes have been created, the number of research areas has decreased, together with the number of training activities. In addition, although the new Society, Technology and Culture programme is an interdisciplinary programme, it has a more specific focus on the training activities provided.	Resolved
PM-AC-2019_26	<i>There has been a decline in the number of theses obtaining a cum laude grade on the Information and Knowledge Society programme compared with the other two. This outcome should be reviewed. The fall in the number of international mentions may be linked to the lower number of mobility grants awarded, rather than the reasons given related to the EHEA.</i>	The pandemic has not affected the mobility of doctoral students. In any case, the grants budget has been maintained and improved, although there is no evident relationship between this factor and the percentage of doctoral candidates obtaining international mentions. The reduction in the number of cum laudes seems to be accounted for by the unanimous decisions of the assessors.	Resolved

4. Assessment of compliance with the monitoring standards

4.1. Standard 1: Quality of the training programme

The study programme design (research lines, skills profile and training activities) is current according to the requirements of the educational field and it meets the required level of study according to the MECES.

1.1. The programme has mechanisms in place to ensure that the admission profile of PhD students is suitable and that the number of students is consistent with the characteristics and distribution of the programme's research lines and the number of places available.

1.2. The programme has suitable mechanisms in place for supervision of doctoral students and, where applicable, of training activities.

Programme	Progressing towards excellence	Compliant	Compliant with conditions	Non-compliant
Doctoral programme in the Information and Knowledge Society		X		
Doctoral programme in Education and ICT (E-learning)		X		
Doctoral programme in Network and Information Technologies	X			
Doctoral programme in Health and Psychology		X		
Overall assessment		X		

<i>Has this indicator been adequately met? Can it be confirmed that...</i>	Yes/No			
	IKS	E-learning	NIT	H&P
<i>Programme</i>	IKS	E-learning	NIT	H&P
<i>The number of new incoming students, demand and the trend in total number of students enrolled</i>	Yes	Yes	Yes	Yes
<i>The admission profile of enrolled students</i>	Yes	Yes	Yes	Yes
<i>Percentage of foreign students enrolled</i>	Yes	Yes	Yes	Yes
<i>Percentage of students who previously undertook master's programmes at other universities</i>	Yes	Yes	Yes	Yes
<i>Percentage of part-time/grant-holding students</i>	Yes	Yes	Yes	Yes
<i>Percentage of students in each research line</i>	Yes	Yes	Yes	Yes
<i>The coordination mechanisms between teaching staff and between faculties and the Doctoral School (in particular for interuniversity qualifications)</i>	Yes	Yes	Yes	Yes
<i>The amendments and changes introduced to the programme have improved the functioning and results of the qualification</i>	Yes	Yes	N/A	N/A
<i>Presence of the gender perspective in the teaching of the qualification</i>	Yes	Yes	Yes	Yes

Strengths

The centre has the following strengths in respect of those highlighted in the previous report:

- Demand continues to grow overall, thanks to the greater number of programmes and the fact that they have been brought in line with the areas taught by the faculties, giving students who have studied official master's degrees the option to continue.
- The programme selection process is robust, with demand exceeding supply by a significant margin. The academic committees strictly control admission, declaring places unfilled if necessary.
- The ethics committee now reviews research plans from the first year, making it a required condition for a positive assessment so students can continue on the programme. Research plans are strictly assessed following an exhaustive procedure involving a range of key actors (thesis committee, external experts and the academic committee).
- The algorithm for allocating grants to the programmes has been improved, taking into account their capacity to supervise theses measured in terms of the number of researchers with ongoing recognized six-year research periods on each programme.
- The recent reorganization of the portfolio has brought research lines much more into line with the real research carried out by the University's groups.

Areas for improvement

The centre has identified the following areas for improvement:

- There is still room for improving the efficiency and internal coordination of collecting enrolment documentation and verifying the specific criteria applied by the programmes.
- Improve funding to give access to more full-time doctoral students.
- The technology transfer between doctoral programmes and the world of business could be improved.

Analysis and assessment

Overall assessment of the Doctoral School

The Doctoral School has grown significantly over the last two years, significantly affecting the four programmes reviewed in this monitoring report. When it was established, the School had just three affiliated programmes:

- Doctoral programme in the Information and Knowledge Society
- Doctoral programme in Education and ICT (E-learning)
- Doctoral programme in Network and Information Technologies

As the UOC's faculties have achieved a notable critical mass in terms of respected researchers, and in response to demand from both faculty management and from the doctoral students joining our programmes, the School has carried out an extensive restructuring of its portfolio.

Firstly, the UOC's participation in Spanish interuniversity programmes has increased, with three new programmes:

- Interuniversity doctoral programme in Bioinformatics (offered since the xx academic year in partnership with UAB, UPC, UdG, UdL, UOC, and UVic-UCC). This programme was evaluated in the 2018/2019 monitoring report.
- Interuniversity doctoral programme in Tourism (offered since the xx academic year in partnership with UMA, UA, UCA, UCM, UEX, ULL, Nebrija, UOC, URJC, USC, US and UVIGO).
- Interuniversity doctoral programme in Business Administration and Management (offered since the xx academic year by UPC, UPM, UPCT and UOC).

This has allowed researchers with an excellent career background to supervise theses in their fields. This would not have been possible outside the interuniversity programmes, as the individual universities do not have the critical mass of doctors in these fields. Bringing together excellent groups from different universities has made it possible to design highly specific programmes with a much stronger critical mass of researchers.

Secondly, the portfolio coordinated by the UOC has been extended with three new programmes:

- Doctoral programme in Humanities and Communication, which began enrolling students in September 2020.
- Doctoral Programme in Health and Psychology, which began enrolling students in September 2020. This programme has been reviewed in this report, although it has only been running for one year, in order to report on the measures taken in response to the special monitoring issues identified in its verification report.
- Doctoral programme in Society, Technology and Culture, which began enrolling students in September 2020.

This extension of the portfolio has had immediate consequences for the research lines of the earlier programmes. It has also resulted in the phasing out of the Information and Knowledge Society programme (subject to review in this report), which has been re-verified as the new Society, Technology and Culture programme. Many of the research staff and lines in the Information and Knowledge Society programme have been redistributed to the Humanities and Communication and Health and Psychology programmes, where the researchers have found a better fit for their research.

The Doctoral School expects to complete its portfolio soon with the addition of a new programme in Law, Politics and Economics. This programme was in the process of being verified at the date on which this report was prepared.

Finally, the School has continued to extend and update its training activities, for example to help researchers construct an online profile, in line with the recommendations and proposals for improvement contained in the centre accreditation report for 2018/2019.

The key matters relating to each of the programmes are detailed below.

Doctoral programme in the Information and Knowledge Society

The 2020/2021 academic year was the last in which new students were admitted to this programme. The doctoral programme in the Information and Knowledge Society (IKS), the first offered by the UOC, has been replaced by the doctoral programme in Society, Technology and Culture (open from the 2021/2022 academic year, verified in 2021). The IKS programme is being phased out following the redefinition of the third cycle educational portfolio offered by the Doctoral School in recent years.

For this reason, it is considered acceptable that the number of new students admitted has fallen to 15 in the 2020/2021 academic year, and that some research lines have been prioritized at the expense of others (in fact they have been relocated to other, more specialized UOC doctoral programmes). This has enabled the School to reduce the disperse nature of the academic activities offered within the programme, in line with one of the proposals for improvement put forward in the 2019 accreditation report (see Section 2). The other indicators meet the normal levels of quality and balance required.

Doctoral programme in Education and ICT (E-learning)

A total of 20 students have joined the programme in this period, with an almost equal number of men and women. This number is slightly lower than in the previous assessment period, but it is considered entirely satisfactory. The doctoral students in these cohorts are evenly distributed over four of the programme's five lines of research (five per line). Only one of the research lines (*Educational issues and contexts in the digital society*), which was newly created in the 2020/2021 academic year, did not attract any doctoral students, probably due to its newness, but it is expected to do so in future academic years, given the demand from teaching staff. A total of 75% of the doctoral students surveyed viewed the programme's lines of research positively. The number of people expressing interest in the programme increased this year in similar proportions to those of the previous two years. The number of enquiries in 2017/2018 and 2019/2020 was 163 and 200, respectively. In 2020/2021 and 2021/2022 the number was 283 and 322, respectively.

The percentage of foreign students is unchanged at 50%, reflecting the programme's strong ability to attract talent. A total of 68% of the newly incorporated doctoral students have come from master's degree studies at other universities (eight in 2019/2020 and seven in 2020/2021). Of the new doctoral students, 75% are part-time and 25% are full-time. Two or three internal grants are awarded each year. They are subject to a competitive selection process and only the candidates with the highest scores obtain them.

In line with the proposals for improvement in the 2019 accreditation report, the UOC has increased the number of predoctoral grants over the last four years. Since the 2014/2015 academic year, seven full-time doctoral students have defended their theses and there are currently 11 further full-time doctoral students who are expected to gain their doctorates in the next few years.

The programme has mechanisms in place for cross supervising the activity of doctoral students regarding both their research plans and training. However, it is considered that there is room for improvement in the coordination of those involved in this monitoring, and work is in progress to develop the tools necessary to achieve this.

There have been only two significant changes in the programme: the creation of the new line of research referred to above and the PhD Open Sessions seminars. Although it is early for us to evaluate their impact on the results of the qualification, they have generally been well received, as they respond to the demands of teaching staff and doctoral students, respectively.

Regarding the acquisition of competencies, 75% of doctoral students think that they will be able to make professional use of the knowledge and skills they have acquired during the course. Annual assessments of the progress of doctoral students and the quality of the theses produced indicate that the design of the programme is appropriate to ensure the satisfactory development of competencies in accordance with the required MECES level.

Work is in progress on incorporating the gender perspective in a more direct and intentional sense, and seminars are being prepared for doctoral students, led by researchers from the GenTIC group, who are experts in the subject. These activities are intended to train doctoral students to incorporate this point of view in their research and will be offered from the 2021/2022 academic year. However, it is a clear area for improvement, as we are still at an early stage, for example, in the systematic compilation and analysis of gender indicators.

Strengths

The rubric used for assessing candidates for admission has been improved, clarifying criteria and distinguishing the motivation letter from the "research idea" as a tentative proposal for a doctoral thesis project. This change will improve the mechanisms for ensuring that student profiles align with the programme.

Monthly open online research seminars have been organized for all doctoral students on the programme and their supervisors, dealing mainly with issues related to research procedures and methodology. They are optional, although full-time doctoral students are expected to attend. These seminars, called *PhD Open Sessions*, provided a channel for connection and exchange during the pandemic when face-to-face meetings were not possible. The sessions are prepared by the doctoral students themselves and allow them to share their research work, the problems they face and the solutions they apply with their peers and with teaching staff. This activity plays a very positive role in promoting a sense of belonging to the programme and in creating a support network for all those involved. We hope to continue promoting the sessions, although sometimes students need to be encouraged to prepare them and attendance is not very high.

In addition to this activity, two compulsory assessment activities take place (in years 2 and 4). During the period assessed, unlike previous years, these were fully online. In these sessions, doctoral students have to defend the work they have done before a panel of three judges. Participation, which is online, has grown compared with previous years and has helped to connect and raise the profile of the doctoral academic community, even allowing researchers outside the university to participate. As well as evaluating doctoral students' communicative skills in English, this activity encourages them to continue and constantly improve their work on their theses.

Finally, in the 2020/2021 academic year, a new research line was set up within the programme, proposed by the members of the Faculty of Psychology and Education Sciences and approved by the

Academic Committee. This line, entitled *Educational issues and contexts in the digital society*, aims to encompass doctoral theses that tackle social and educational issues and problems in the digital society, and in which technology is not the focus but part of a socio-cultural context that configures relationships, tools and scenarios.

Areas for improvement

Improve and clarify, for the benefit of all those involved, the role of tutor in attending to and monitoring doctoral students, together with the communication and coordination between people in this role, thesis supervisors, management and the programme's Academic Committee. We have thus begun to work directly with tutors to produce resources that present their function and make it more comprehensible, especially in connection with key moments and stages at which they intervene in the training of doctoral students.

Improve the instruments for monitoring the activity of doctoral students on the programme, so that they provide more useful and effective training, giving the tools for reflection and for improving the learning process, combining assessment elements from the research and training plans. Specifically, the aim is to review the steps and models for doctoral students to draw up activity reports, involving the tutor more actively in overseeing their production and monitoring. This also applies to the involvement of the thesis supervisors in the annual progress report.

Improve the analysis of indicators broken down by gender, to guarantee mechanisms for ensuring equality in selection, supervision, support, etc.

Doctoral programme in Network and Information Technologies

Indicators for demand and admission to the doctoral programme have continued the trend described in the last monitoring report. Demand for the programme has continued to rise, reaching a total of 201 applications for academic year 2020/2021 (see Table 1.1). Although this is 4.5% less than in 2019/2020, it is 32% higher than the figure quoted in the last monitoring report. Moreover, the number of students admitted in the academic year 2020/2021 (18) is close to the number of places offered (20). It is considered that the increase in demand will make it easier to attract talent.

Table 1.1. Summary of quality indicators for the training programme

Indicator	2013/ 2014	2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	2019/ 2020	2020/ 2021
Places offered	15	15	15	15	20	20	20	20
Demand	43	26	61	123	134	152	210	201
Newly admitted enrolled students	21	11	12	11	21	11	16	18
- <i>New students</i>	12	10	10	11	21	11	16	18
- <i>Students transferred from other programmes</i>	9	1	2	0	0	0	0	0

Students with grants	23.81 %	34.38 %	38.39%	44.91%	33.33 %	29.82 %	37.5%	37%
Part-time students	76.19 %	65.63 %	61.11%	59.09%	66.67 %	70.18 %	56.25 %	63%
Foreign students	28.57 %	21.88 %	30.56%	36.36%	37.25 %	36.84 %	50%	41%
Students who previously undertook master's programmes at other universities	71.43 %	62.5%	61.11%	65.91%	68.63 %	70.18 %	75%	69.44 %

The percentages of doctoral students from abroad, those who previously undertook master's programmes at other universities, full-time doctoral students with grants, and part-time doctoral students have not varied significantly.

Distribució total de doctorands per línia de recerca

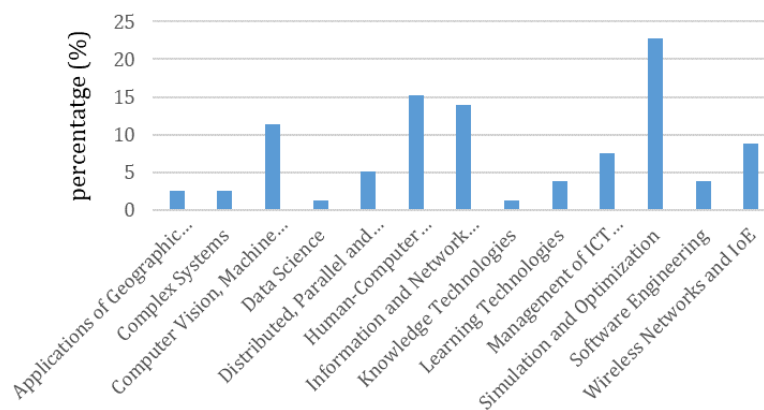


Figure 1.1 Breakdown of doctoral students by line of research in the 2020/2021 academic year

As was the case in the last monitoring report, the breakdown of doctoral students by line of research is very uneven (see Figure 1.1). This phenomenon has been analysed in the past and is considered to reflect the supervisory capacity of each line of research (the number of teaching staff associated with the line) and the importance of the groups supporting it. A significant change from the previous report is that the first doctoral students have joined the lines of research incorporated in the programme in the 2018/2019 accreditation process, *Complex Systems* and *Data Science*, which has helped to consolidate them.

There have been no major changes in the coordination of the teaching staff involved in this doctoral programme, especially the Faculty of Computer Science, Multimedia and Telecommunications, the Internet Interdisciplinary Institute (IN3) research groups and the doctoral programme.

Table 1.2. Survey statements and level of satisfaction for the 2020/2021 academic year

Survey statement	Level of satisfaction
The information (regulations, grants, etc.) on the website and the Doctoral School Secretariat site was clear and sufficiently complete	83.3%
The lines of research for my programme were clearly defined	100%
I received enough information to understand the methodology and how the Virtual Campus works	83.3%
The classroom is suitable for achieving the programme's objectives	66.7%
The training activities helped me achieve my educational objectives	80%
The assessment system was appropriate for assessing the fulfilment of my objectives	80%
I can make use of the knowledge and skills acquired on the programme in my career	83.3%
I am satisfied with the doctoral programme	83.3%
I would recommend the doctoral programme to friends or relatives	83.3%
My thesis supervisor gave me the necessary support to conduct my research project	83.3%
My thesis supervisor is knowledgeable in my field of research and answered my questions clearly and in a timely fashion	83.3%
My thesis supervisor spent enough time on me	83.3%
My thesis supervisor is helping me to develop interdisciplinary competencies	66.7%
My thesis supervisor gives clear, concise instructions	83.3%
My thesis supervisor meets my needs	83.3%
I'm happy with my thesis supervisor's involvement	83.3%

Levels of satisfaction with the programme among doctoral students remain very acceptable. Table 1.2 shows the survey sent to doctoral students and the levels of satisfaction recorded. Levels of satisfaction are around 83%. A sample is provided in the documents attached to Section 9, which show the results of the satisfaction survey for the doctoral programme in Network and Information Technologies (academic year 2020/2021) and those of the programme assessment report for the 2020-1 semester, with the aggregate results based on the activities completed by doctoral students. It can be seen that in nearly all sections of the survey satisfaction levels are between 80% and 85%.

There have been no notable changes in the extent to which the gender perspective is present. As detailed in the last monitoring report, the following measures have been promoted in the doctoral programme, the Doctoral School and the University:

1. Institutional, academic and scientific communication from the Doctoral School and the doctoral programme take the gender perspective into account to avoid any bias.
2. The Faculty of Computer Science, Multimedia and Telecommunications, which includes staff teaching the doctoral programme, has established the Equitat Award (<http://premi-equitat.uoc.edu/>) to encourage the participation of women in the ICT field and thus increase their presence in both the academic and professional worlds.

The percentages of men and women in each call are still highly variable, but the number of women is always significantly smaller. For example, the respective percentages of new women doctoral students in the 2010/2020 and 2020/2021 academic years were 35% and 13%.

Like all teaching staff at the UOC, the doctoral programme teaching staff received or will receive compulsory training organized by the institution on the inclusion of the gender perspective, which, it is hoped, will enhance the presence of the gender perspective in the teaching of courses.

The general assessment of the standard ranges from satisfactory to excellent.

Strengths

The strong points regarding the standard are as follows:

- Positive trend in demand, which continues to rise.
- The ability to attract talent from outside the institution, with a very high percentage of students admitted from other universities.
- The distribution of students admitted by line of research reflects the capacity for training and supervision of the different areas of knowledge forming part of the doctoral programme.

Areas for improvement

As pointed out previously, no measures are envisaged to improve this standard.

Doctoral programme in Health and Psychology

As indicated in the report on this qualification, 15 places were offered for the first intake (starting September 2020) and 20 for the second (starting September 2021). In the first case, 14 places were assigned when the candidates had been assessed, although some of the students accepted finally opted out of the programme because they were unable to obtain grants. Of the 14 who enrolled, two dropped out before submitting their research plan. One did so because of the social and political situation in the student's home country (Nigeria), while the other found a full-time job related to the field which did not leave sufficient time to follow the course.

For the second cohort, which began in September 2021, 20 students were selected, as planned, thus taking up 100% of the places available. We also accepted one additional student, who obtained a grant

to work full-time on her thesis, taking the total to 21. Of these, one student will not continue with the doctoral programme, as he has been promoted at work.

Altogether, we have 32 active students. In addition, during the 2020/2021 academic year, five students transferred from other UOC doctoral programmes, as they are working on topics more closely related to the Health and Psychology programme. Another transfer was a student who was working on a doctorate at another university, supervised by one of our programme's teaching staff.

Excluding transfers and focusing on the 32 active doctoral students we have assessed and tracked from the start of the programme, we find that students' profiles are very appropriate in view of the programme's multidisciplinary approach. The students come from the following bachelor's/master's degree courses:

<i>Bachelor's/Master's degree in</i>	N	Percentage
Biotechnology	1	3.12
Political Science	2	6.2
Exercise and Sports Sciences	2	6.2
Economics and Business Studies	1	3.12
Computer Engineering	1	3.12
Law	1	3.12
English Studies (bachelor's degree)	1	3.12
Nutrition	2	6.2
Nursing	1	3.12
Medicine	6	18.75
Dentistry	1	3.12
Psychology	12	37.5
Chemistry	1	3.12

The table shows a high proportion of students with a background in psychology, probably due to the expertise (and the resulting availability of projects) in this field of many of the teaching staff involved in the programme.

Most of our students have studied at other universities. Only five of the 32 students (15.62%) have taken master's degree courses with us. We value this very positively, as it shows that the programme generates interest beyond students who already know the University. However, we are also considering publicizing the programme more extensively in our own master's degree courses with a view to fostering research training among our students.

Of the 32 students, four hold UOC grants, which enables them to study full-time. Two other students can concentrate on the programme thanks to being contracted through competitive research projects. Finally, one more student has a half-day contract, also via a research project. Bearing in mind that many of the students following the programme with us have a main job, we consider that the percentage with grants is reasonable (7 of the 32; 21.87%).

Twenty-one of the students are Spanish (65.62%). In future years, we would hope to expand the programme internationally.

The breakdown into seven lines of research is considered appropriate, considering the number of researchers attached to each line:

<i>Research line</i>	N	Percentage
Nutrition and healthy lifestyles	6	18.75
Community care and health	3	9.37
E-health	7	21.87
Healthy work environments	2	6.25
Gender, health and sociocultural models	2	6.25
Neuroscience and language disorders	5	15.62
Psychology: tools, intervention and practice for health	7	21.38

Regarding the gender perspective, a training session was provided for students during the last academic year. In the session, experts from the GenTIC research group gave them guidance in connection with their research projects. We will hold the session again in the 2021/2022 academic year, but we have also included the need to deal with the gender perspective in the guide to preparing a research plan and in the rubric. It is also worth mentioning that most of the teaching staff involved in supervising theses have attended various institutional training sessions on ethical and gender perspectives, including "Ethical topics in R&I" (78.57% attendance) and "The interdisciplinary competency of global ethical commitment" (83.33% attendance).

Strengths

Students from different disciplines with a balance regarding lines of research. We have been able to attract students to cover the places available and attract talent with no previous connection to the UOC. This is a clear indication of the quality of the research carried out and the interest it generates.

Areas for improvement

Firstly, we want to attract more talent from abroad, as is the case with the other programmes in the Doctoral School. Accordingly, we propose that a work plan should be prepared to systematize relations with international institutions in order to secure grants and aid to fund students on the programme. We would also like to develop a plan to raise our international profile.

And we want to publicize the programme more extensively among our own master's degree students. We have therefore begun and plan to continue sending information to students on different programmes related to the content of the doctoral programme through tutors.

4.2. Standard 2: Relevance of public information

The institution appropriately informs all stakeholders of the PhD programme's characteristics and the management processes for quality assurance.

2.1. The HEI publishes truthful, complete, up-to-date and accessible information on the characteristics of the PhD programme, its operational delivery and the outcomes achieved.

2.2. The institution guarantees easy access to relevant information on the PhD programme for all stakeholders, which includes monitoring and, where applicable, accreditation outcomes.

2.3. The HEI publishes the IQAS which forms the framework of the PhD programme.

Programme	Progressing towards excellence	Compliant	Compliant with conditions	Non-compliant
Doctoral programme in the Information and Knowledge Society		X		
Doctoral programme in Education and ICT (E-learning)		X		
Doctoral programme in Network and Information Technologies		X		
Doctoral programme in Health and Psychology		X		
Overall assessment		X		

Analysis and assessment

The IQAS is public and accessible in the quality section of the University's website.

The public information about the doctoral programmes has improved compared with previous years. The comments made in the 2018/2019 centre accreditation report have been taken into account and a number of measures have been applied to ensure that the information available is complete and up-to-date, regarding not only the characteristics of the programme and its outcomes but also the processes that guarantee its quality (exhaustive information on the procedures for monitoring and accrediting programmes; the reports are public and available in PDF format).

The Doctoral School has its own website, where the following are published:

- Multidisciplinary information on the doctoral programmes.
- Calls for grants and financial aid.
- Information regarding courses linked to research and entrepreneurship.
- The latest news involving doctoral students is reported. Special emphasis has been placed on disseminating publications and work by students via the website and social media. A person has

been taken on to provide motivation and a press team conducts formal interviews, which are published on the Doctoral School website.

- A help section for the industrial doctorate programme, aimed at companies interested in the UOC's lines of research and at future students and candidates.
- A showcase for theses that have been defended.
- A resources section, where open access courses are recorded and offered to the community free of charge.
- Good practices and a kit for researchers.
- A guide to career plan development.
- Information regarding registration and the fees payable.

Information about each doctoral programme is published on the University website and has been updated to make it easier to understand. Here, the following are published for each programme:

- General criteria for access and admission (RD 99/2011 and the academic regulations for doctoral courses) and specific criteria for each programme.
- The lines of research involved in each programme, with their description, research groups and associate researchers, plus links to their CVs.
- The specific admission criteria for each programme.
- The access process and a link to the induction classroom, where a specialist tutor provides guidance on all steps related to access and the selection process.

As the doctoral programme in the Information and Knowledge Society is currently being phased out, information for students and those who want to change programme is published on the Virtual Campus and in the tutor classrooms.

We have identified the following shortcomings, which are being progressively corrected, although they call for institutional investment that goes beyond the remit of the Doctoral School:

- Information about teaching and research staff at the UOC is not presented uniformly. The school makes an effort to keep the links to its researchers' websites up to date. These websites are maintained by the researchers themselves and are sometimes not fully updated. The University has launched a large-scale project, involving all research staff, which should allow each researcher's website profile to be generated and updated automatically in a common format (complementing the current group and researcher sites). The project is complex, as it requires investment in the content manager that lies behind it and in developing automation tools capable of connecting to the system for managing research publications and projects (GIR), where researchers enter their details, and processing the information so that it appears immediately on the researcher's website. This will make it possible to unify the way in which information is displayed and ensure that it is up to date.

Improvements are also needed in the presentation of information published on satisfaction levels and the most significant research results for each programme, which currently appear in aggregate form. These

measures for improvement were detailed in the accreditation report and published, but a technical issue has prevented them being published for each programme.

Strengths

- Currently, information about the programmes is complete, constantly updated, and presented in a uniform, user-friendly format.
- A guide to the use of non-sexist language in research has been published, to ensure that all groups issuing communications address stakeholders respectfully and on an inclusive basis.

Areas for improvement

The presentation of information about researchers is currently manual and not always up to date. Tools that reference the researcher's website are needed so that information about competitive research projects, publications and patents can be automatically uploaded on the websites of the teaching and research staff.

Currently there is still no breakdown of data by gender.

4.3. Standard 3: Efficacy of the internal quality assurance system

The HEI has a functioning internal quality assurance system that has a formal status and assures the quality and continuous enhancement of the PhD programme in an efficient way.

3.1. The IQAS implemented facilitates the processes for the design and approval of the PhD programme, its monitoring and its accreditation.

3.2. The IQAS implemented ensures information and relevant outcomes are compiled for effective management of the PhD programmes.

3.3. The IQAS implemented is reviewed periodically in order to analyse its suitability and, where applicable, an enhancement plan is put forward in order to optimize it.

Programme	Progressing towards excellence	Compliant	Compliant with conditions	Non-compliant
Doctoral programme in the Information and Knowledge Society	X			
Doctoral programme in Education and ICT (E-learning)	X			
Doctoral programme in Network and Information Technologies	X			

Doctoral programme in Health and Psychology	X			
Overall assessment	X			

Analysis and assessment

There has been a change since the previous monitoring report, as in April 2021 the UOC's Internal Quality Assurance System was assessed and approved by the Catalan University Quality Assurance Agency (AQU Catalunya). This fact, together with the favourable accreditation of 50% of bachelor's and master's degree courses, has enabled the UOC to apply for institutional accreditation (pending approval at the time this report was drawn up), which in turn enables six-yearly accreditations of all the official bachelor's and university master's degrees the UOC offers.

At present the Doctoral School is not being presented for accreditation, as the enlargement of its portfolio to meet the needs of UOC researchers has led to the existence of a number of very young programmes, which require a certain time to be accredited individually.

The IQAS manual (first approved in 2009 and revised in 2017) was followed in the validation of programmes coordinated by the UOC and in the three joint programmes mentioned. Among other changes, the revision included doctoral programmes in all design, monitoring and accreditation processes; adapted admission procedures (PO06 - Managing admission and enrolment), which also reflect the character of competitive admission to doctoral programmes, as distinct from admission to other first and second cycle studies; and incorporated new, ad hoc procedures for doctoral programmes (e.g. PO16 - Depositing, defending and assessing the doctoral thesis). During the period covered by this monitoring report, a new version of the Internal Quality Assurance System manual was published (11/05/2020), and it has been followed in the validation process for the new doctoral programme in Law, Politics and Economics. The latest version of the manual can be consulted at: <https://www.uoc.edu/portal/en/qualitat/politica-qualitat/garantia-interna/index.html>.

The IQAS ensures that data are collected for all the programmes. Data collection has become progressively more systematic, meeting the needs of programme directors so that courses can be properly monitored. However, at present this process is mainly manual and administrative staff are needed to implement it. We are currently considering two ways in which improvements can be made in respect of this standard:

- Automating the collection of data for these indicators in real time as far as possible, coordinating this with the production of monitoring reports.
- Publicizing these indicators, in graphic format, if possible, on the Doctoral School website.

The School is now developing a tool based on scripting languages (JavaScript), which takes advantage of the transfer of data to the cloud (Google services) to integrate and sort information from different spreadsheets to construct a detailed report of the indicators for each programme listed in the monitoring report template published on the AQU Catalunya website.

- Complete the process of automating data collection to develop a tool that is less manual, more repetitive and consistent across programmes.

In line with the recommendations and proposals for improvement set out in the accreditation for the centre in 2018/2019, the analysis of available data and the systematic production of biannual monitoring reports (and their plans for improvement) are the cornerstones of the strategy followed for ongoing improvement in all doctoral programmes, and it is hoped that this tool and reporting will mean that drawing up reports requires less time, which can then be spent on making effective improvements to the programmes, with more continuous monitoring, rather than having to wait to generate information each semester, or once or twice a year.

Strengths

- IQAS updated and certified; institutional accreditation for UOC (pending confirmation).
- Regular, systematic review of indicators.
- Systematic collection of data (satisfaction survey of doctoral students, graduates and thesis supervisors).

Areas for improvement

- Better public information on the website, regarding monitoring data defined in the IQAS.
- Complete the process of automating data collection to develop a tool that is less manual, more repetitive and consistent across programmes.

4.4. Standard 4: Suitability of teaching staff

Teaching staff are both sufficient and suitable in accordance with the characteristics of the PhD programme, the scientific field and the number of students.

4.1. Teaching staff have accredited research activity.

4.2. Teaching staff are sufficient in number and work a suitable number of hours in order to perform their functions.

4.3. The PhD programme is supported by suitable actions in order to promote thesis supervision and PhD student tutoring.

4.4. The level of involvement of foreign teaching staff and international doctors in monitoring committees and thesis assessment boards is suitable for the scientific field of the programme.

Programme	Progressing towards excellence	Compliant	Compliant with conditions	Non-compliant
Doctoral programme in the Information and Knowledge Society		X		

Doctoral programme in Education and ICT (E-learning)		X		
Doctoral programme in Network and Information Technologies		X		
Doctoral programme in Health and Psychology		X		
Overall assessment		X		

Has this indicator been adequately met? Can it be confirmed that...	Yes/No			
	IKS	E-learning	NIT	H&P
<i>Programme</i>				
Teaching/research staff: competitive research projects in progress, significant scientific contributions, etc. (the expertise needed).	Yes	Yes	Yes	Yes
Foreign teaching staff involved	Yes	Yes	No	Yes
Number/ratio of thesis supervisors	Yes	Yes	Yes	Yes
The level of student satisfaction with thesis supervisors is 75%	Yes	Yes	Yes	N/A
Training activities aimed at teaching staff (give details if appropriate)	Yes	Yes	Yes	Yes
Activities to support research by teaching staff and opportunities for improvement (give details if appropriate)	Yes	Yes	Yes	Yes

Strengths

- Increased satisfaction with thesis supervision, as demonstrated by the survey results.
- Improvement in training activities aimed at thesis supervisors and doctoral students, thanks to the creation of an individualized training plan for teaching and research staff. This includes courses on team management and leadership, academic writing, time management with specific tools (G Suite, Trello), emotional management of researchers, effective oral presentations, and knowledge transfer.
- Over the last two years there has been a significant increase in the number of teaching and research staff contracted, with the aim of reaching an approximate ratio of 60% teaching and 40% research.

Areas for improvement

- Increasing the presence of international teaching staff is an unresolved issue in all programmes and needs to be tackled from various angles:
 - An increase in joint supervision with researchers from abroad.
 - An increase in international participation in assessment committees and thesis assessment boards.
 - An increase in joint publications with leading international centres.

Analysis and assessment

Doctoral programme in the Information and Knowledge Society

The teaching and research staff for the doctoral programme is extensive, with a multidisciplinary background. Accredited research work complies with the standards required by the university system. There is also a significant volume of work linked to leadership in competitive research projects and transfer projects (contracted research). The foreign teaching staff involved introduce diverse viewpoints in thesis supervision committees and assessment boards. An effort is made to ensure that thesis supervision does not constitute an excessive workload, particularly in the case of junior staff (who are asked to supervise theses jointly with more experienced staff). This strategy also helps to train less experienced teaching staff.

The Doctoral School offers other, more standardized training for teaching staff, while action to support research work is the responsibility of other university departments (for example, UOC R&I and the eLearn Center). The University has a training programme aimed at teaching and research staff, with courses on research management, the Scopus/WOS databases, the O2 Repository and editorial policies, digital profiles and the dissemination of research, and strategies for publishing in quality journals.

The average level of student satisfaction with thesis supervision is 73%. Of the seven indicators included, the least favourable is the involvement of thesis supervisors in the development of interdisciplinary competencies (57% satisfaction level). If we exclude this indicator, the satisfaction level rises to 75%. While we shall work to improve all the satisfaction indicators, special emphasis will be placed on the one receiving the lowest score.

Doctoral programme in Education and ICT (E-learning)

Regarding these indicators, and in line with the proposals for improvement in the 2019 accreditation report, the percentage of teaching staff with research accreditation working in the programme is 52%, while 72% of teaching staff have ongoing recognized six-year research periods. This suggests that a large part of the active teaching staff are still at a junior level and are expected to obtain accreditation in the next few years. During this period, teaching staff have coordinated some twenty competitive research projects, half of which have been Spanish and the other half European. They have also signed seven competitive and non-competitive consultancy contracts in different areas of expertise. Four research

groups linked to the programme have been awarded competitive grants. However, we hope to continue to attract new accredited teaching staff or staff with a clear research profile.

External teaching staff involved in joint supervision of theses at the UOC account for 15.8% and those from abroad 8.8%. The presence of international staff is also achieved through other channels, such as thesis assessment boards and external assessment. However, there has been a progressive decline in the number of external and foreign teaching staff during the period assessed. We are continuing to work to improve this indicator, with joint supervision, thesis assessment boards and external assessment (where foreign teaching staff have a significant presence). It has been included in the decision-making criteria of the programme's Academic Committee and specific recommendations have been drawn up for the teaching staff involved. Recently, the Academic Committee decided to set up a panel of experts in the programme's lines of research, with a commitment to provide external assessment of theses when they are deposited. We hope that the links between the programme and external teaching staff abroad, through this panel, will grow together with their presence in thesis assessment boards. They could, albeit indirectly, even act as facilitators for joint supervision.

There is an average ratio of 1.5 doctoral students per thesis supervisor, taking all active theses in the programme and all teaching staff involved, whether internal or external, into account. We consider this an acceptable ratio and there is even room for increasing it. The number of active supervisors has risen by five since the previous assessment and there is a good balance between men and women.

All indicators of satisfaction with thesis supervision are very high: almost all exceed 85% and in the cases of knowledge of the field of research and attention to queries and requirements they reach 94%.

The University has a training programme aimed at teaching and research staff, and the percentage of teaching staff involved in our programme who have attended training activities is as follows: "Leading research teams" (43.75% participation), "Global ethical commitment" (81.25% participation), "Atlas.ti" (33.33% participation), "How to give an effective talk" (12.50% participation) and "Ethical matters and data protection" (12.50%).

Strengths

The high levels of satisfaction among doctoral students with thesis supervision, as mentioned previously.

The Doctoral School and UOC R&I are working to improve the research training activities on offer, with an extensive, varied catalogue for developing teaching staff's research skills in the broadest sense: competencies related to information, communication, digital media, academic writing, entrepreneurship in research, ethical and responsible research, open access, etc.

Areas for improvement

Creation of a panel of experts in the programme's lines of research, comprising in-house UOC staff, external staff and staff from abroad, who will intervene in the external assessment of theses submitted and in assessment boards and help to develop interuniversity connections that may lead to joint supervisions with teaching staff abroad. It will also facilitate closer monitoring and help us to capitalize on the foreign teaching staff involved in programme assessment.

Doctoral programme in Network and Information Technologies

The research experience and work of the doctoral programme's teaching staff are accredited by the percentage of active researchers with ongoing recognized six-year research periods at the end of the 2020/2021 academic year. At that time, 74% were in this category, as can be seen in Figure 4.1. In the 2019/2020 and 2020/2021 academic years, the numbers of these defended were three and two respectively (see Table 4.1). All the supervisors were active researchers with ongoing recognized six-year research periods.

Their dedication to the supervision of doctoral theses is also satisfactory. For example, the average number of supervisors per thesis is 1.7, which shows that in most cases the thesis is jointly supervised by two members of staff.

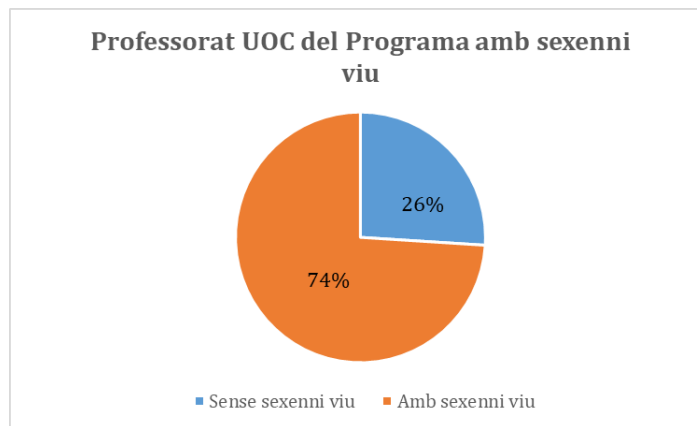


Figure 4.1. Percentage of UOC teaching staff on the doctoral programme with ongoing recognized six-year research period (at the end of the 2020/2021 academic year)

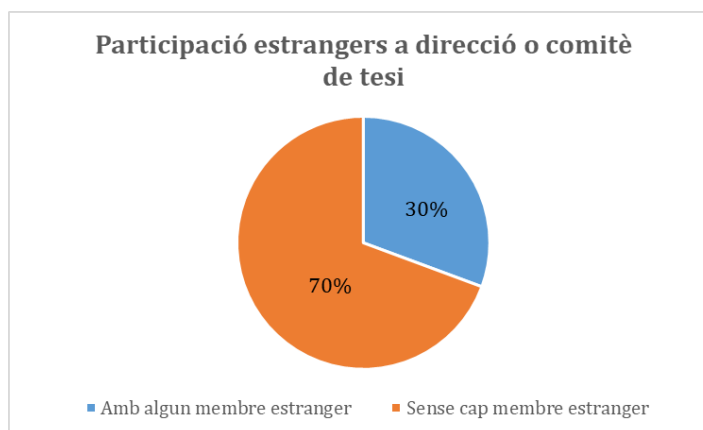


Figure 4.2. Thesis supervisors or thesis committees with at least one foreign member (at the end of the 2020/2021 academic year)

Table 4.1. Summary of indicators on suitability of teaching staff

Indicator	2013 /2014	2014/ 2015	2015 /2016	2016 /2017	2017 /2018	2018/ 2019	2019/ 2020	2020/ 2021
Number of theses defended on the programme	0	4	2	6	3	5	3	2
- Full-time theses	0	3	0	3	1	5	2	1
- Part-time theses	0	1	2	3	2	0	1	1
Number of supervisors of theses defended in the programme	-	7	3	10	5	9	5	3
Percentage of teaching staff supervising theses defended on the programme with ongoing recognized six-year research periods (excluding external staff)	-	100%	100%	100%	75%	83%	100%	100%

The composition of the doctoral programme teaching staff could be improved by the participation of staff from abroad. As shown in Figure 4.2, only 30% of the doctoral theses active at the end of the 2020/2021 academic year had at least one supervisor or committee member from abroad.

The surveys answered by doctoral students show that a very high level of satisfaction with thesis supervision. As can be seen in Table 1.2, satisfaction with the involvement of thesis supervisors was 83.3% in the 2020/2021 academic year. The support given by the supervisor and the supervisor's knowledge of the field of research both recorded 83.3% satisfaction levels.

From these results we can conclude that the programme's teaching staff is satisfactory, although action is needed to increase the percentages of doctoral theses involving teaching staff from abroad, either as joint supervisors or as members of the thesis committee.

The research training programme for teaching staff is mainly organized by the Personnel department, the Doctoral School and the Faculty of Computer Science, Multimedia and Telecommunications, which include most of the teaching staff. During the 2020/2021 academic year the main training activities were as follows:

- "Digital profiles and research dissemination": training in scientific communication and dissemination for teaching and research staff. Organized by the UOC in 2021.
- "Leading research teams": training organized by the UOC in 2021 to develop research group management skills.
- Faculty of Computer Science, Multimedia and Telecommunications, IN3 and eHC research group seminars. These take place at regular intervals and are open to teaching staff.
- "O2 and publishing policy": organized by the UOC in 2021.
- Publicity for training offered by external organizations, such as AQU Catalunya, FECYT and WoS; by companies, such as BigML; etc.

The UOC also implements a strategy for supporting research in different fields. The measures can be summarized as follows:

- Programmes of pedagogical downloads to encourage involvement in research. This project is carried out by different UOC faculties.
- Catalogue of competitive predoctoral and postdoctoral research calls. Each year the Office of the Vice President and the Doctoral School publish calls for our own programmes of grants for predoctoral and postdoctoral studies and periods of research.
- Support for research from UOC R&I.

Although the suitability of teaching staff and doctoral programme training meet the targets for the standard, the limited participation of teaching staff from abroad means that the overall result for Standard 4 is "Compliant".

Strengths

The strong points regarding the standard are as follows:

- The teaching staff have accredited research and are suitable, both in number and individual profiles, for the doctoral programme.
- As part of its teacher training plan, the UOC has developed a solid range of research training options.
- The University has an ambitious programme of grants to support research and a department to support research (UOC R&I).

Areas for improvement

For the programme to progress towards excellence on this standard, measures are needed to enhance the international dimension of the programme (i.e. the participation of more teaching staff from abroad). The following action is proposed, which requires a coordinated effort by the doctoral programme, the Doctoral School, the Legal Office and UOC R&I:

- Define a flexible process for signing cooperation and joint supervision agreements.

Doctoral programme in Health and Psychology

In the validation report submitted, it was stated that the programme would have 42 members of teaching staff. Four members of teaching staff have left the Universitat Oberta de Catalunya in this period and since the start of the programme (Noemí Guillamón, Beatriz Sora, Marta Reinoso and Maria Rodó). At the same time, new teaching staff have joined the UOC in these two years, and some of them are thesis supervisors on our programme. These include Marco Calabria and Salvador Macip, both researchers with a strong reputation in Spain and internationally. Marta Massip, who had recently joined the UOC when the report was presented, has joined the programme as a thesis supervisor. Finally, it should be noted that the faculty member Joan Torrent, who was not listed in the original report, as his work was based in the Faculty of Economics and Business, has also become a thesis supervisor because of his expertise in the subject chosen by the student. The same has occurred with Laura Calvet, whose activities are mainly based in the Faculty of Computer Science, Multimedia and Telecommunications.

The table below (similar to that presented in the programme report) contains up-to-date details of the teaching staff involved in the programme, with the merits and accreditations obtained to date:

	Theses (last 5 years)	Theses under supervision	Valid six-year research periods	Ongoing six-year research period	Maximum accreditation	Research group
Aguilar, A.	0	1	1	No	Lecturer	FoodLab
Andreu, L.	2	7	2	Yes	Advanced research	GRECIL
Armayones, M.	1	4	2	Yes	Research	PSiNET
Aymerich, M.	2	2	1	No	PhD assistant professor	eHealth Lab
Bach, A.	1	4	1	No	Lecturer	FoodLab
Baena, A.	0	1	0	No	Lecturer	External group
Boixadós, M.	0	1	3	Yes	Research	PSiNET
Bosque, M.	1	2	1	Yes	Research	External group
Bourdin, P.	0	2	1	Yes	Lecturer	DARTS
Calabria, M.	0	1	2	Yes	Research	X
Calvet, L.	0	6	0	No	Lecturer	
Carrión, C.	1	4	1	Yes	Lecturer	eHealth Lab
Cassian, N.	0	0	0	No		CareNet
Enache, M.	0	0	1	No	Lecturer	i2TIC
Esquiús, L.	0	2	0	No		FoodLab
Esteve, N.	0	0	1	Yes	Research	External group
Fabregues, S.	0	1	2	Yes	Research	GenTIC
Ficapal, P.	2	1	2	Yes	Research	i2TIC
Gálvez, A.	1	1	1	No	Lecturer	Individual
Gómez, B.	1	2	3	Yes	Research	PSiNET
Gomis, R.	8	1	4	No	Advanced research	FoodLab

Hernández, E.	1	2	3	Yes	Research	PSiNET
Igualada, A.	0	1	1	Yes	Lecturer	GRECIL
López, D.I.	0	5	2	Yes	Research	CareNet
Lupiáñez, F.	2	0	2	Yes	Advanced research	Open Evidence
Macip, S.	7	13	2	No	Advanced research	
Massip, M.	0	1	1	No	Lecturer	FoodLab
Medina, F.X.	2	9	3	Yes	Advanced research	FoodLab
Meneses, J.	1	6	2	Yes	Advanced research	GenTIC
Merino, D.	0	0	1	Yes	Lecturer	Individual
Montesano, A.	0	4	1	Yes	Research	External group
Müller, J.	0	2	0	No		GenTIC
Muñoz, E.	1	4	2	Yes	Research	Cognitive NeuroLab
Nieto, R.	1	2	2	Yes	Advanced research	eHealth Lab
Pie, A.	2	4	1	Yes	Lecturer	CareNet
Planella, J.	5	4	3	Yes	Advanced research	External group
Pousada, M.	0	1	2	Yes	Research	PSiNET
Redolar, D.	2	2	2	Yes	Research	Cognitive NeuroLab
Rodríguez, I.	2	4	2	Yes	Research	CareNet
Saigó, F.	3	4	2	Yes	Research	i2TIC
Sáinz, M.	0	6	2	Yes	Research	GenTIC
Torrent, J.	4	6	2	Yes	Advanced research	i2TIC
Viejo, R.	0	1	1	Yes	Lecturer	Cognitive NeuroLab

In the **areas for special monitoring identified in the programme's validation report** (see Section 2), the percentage of ongoing recognized six-year periods increased to 69.77% (61.9% when the report was

presented). The teaching team is young, but its experience is increasing, and it is gaining accreditation. Likewise, three professors have obtained advanced research accreditation since the beginning of the programme, making a total of nine (18.6%) professors with this accreditation on the programme, and 16 (20.93%) have received research accreditation from AQU Catalunya. Finally, the experience in thesis supervision has also increased. For example, 23 of the 43 (53.49%) professors have supervised at least one thesis in the last five years which has been successfully defended on other programmes at the UOC or at other institutions; 39 professors (90.7%) are currently supervising at least one thesis.

Despite these figures and bearing in mind that the teaching staff is young, several initiatives have been undertaken to train the teaching staff in thesis supervision and facilitate the process. In specific terms, these are:

- *Workshops and seminars for training in thesis supervision.* In view of the need to train the teaching staff, since the beginning of the programme we have begun to organize regular subject-specific sessions at the Doctoral School for novice supervisors and/or those wishing to improve their thesis supervision skills. In October 2020, a session was organized in which highly experienced UOC professors focused on strategies for motivating and monitoring doctoral students (16 professors involved in the programme took part). A second session was held in May 2021 to address how to discuss ethical issues with students and how to encourage them to explore ties with companies (13 professors involved in the programme enrolled). A training session on *leading research teams* was held with the Personnel department in December, aiming to enhance leadership skills in research groups. In early 2022, we will be working with Personnel to organize workshops to work on soft skills in small groups of teachers with a specialized company.
- *Information session about the programme.* Around June every year, a seminar takes place in which the programme is presented to internal researchers and teaching staff, whose questions are answered.
- *Creation of an internal website:* we have created an internal website which contains useful resources for thesis supervision and can be accessed by all the professors. It contains references, good practice documents and UOC materials (the soft skills training programme for thesis supervisors).
- *Training offered by Personnel:* courses and training sessions for teaching and research staff are offered regularly. For example, the opportunity to participate in a course on research team leadership is now available.

In addition to the training actions described above, an effort has been made to include UOC researchers with no previous management experience on thesis committees, under the supervision of a more experienced colleague, which encourages joint supervision. In the first cohort of new students whose thesis committee has already been approved, nine of the 12 students have jointly supervised theses (75%). The thesis committees of seven students (58.33%) include supervisors with no previous experience in thesis supervision. This range of measures ensures that less experienced researchers become involved in supervision with the support of colleagues with extensive experience on thesis committees and receive training support through the various training actions available.

There are foreign researchers on two of the thesis committees. As mentioned with regard to Standard 1, increasing the presence of international teaching staff is an area that needs to be improved.

Strengths

The teaching staff is young, but highly motivated and engaged, tending towards excellence that leads to an increase in ongoing recognized six-year periods and research accreditations. The teaching staff is highly motivated and engaged.

Areas for improvement

The main point for improvement identified to date is increasing the presence of international teaching staff, as mentioned above in the case of students. Starting with the next cohort (beginning in September for the 2022/2023 academic year), tutors will be asked to explicitly consider international researchers in their thesis committee proposals. This can also help to raise the programme's profile elsewhere.

Although the teaching staff's experience in thesis supervision is increasing, we will continue to work to provide them with resources and training. In this area, we aim to carry out the following actions in 2022:

- Working with the Personnel department, we have planned two workshops to work on soft skills for management that will be held in small groups at the beginning of the year.
- In 2022, we will work on creating an infographic to visually, interactively and concisely present the process involved in supervising a thesis. The aim of this document is to provide information about the various processes, not only for supervisors, but also for the external experts who are members of thesis committees.

Increasing participation in this training by the teachers on the programme will be key, so they will be provided with information in advance and will be told about the advantages of taking part.

We also want to make it easier for external researchers/professors to understand the programme and their role within it. To that end, we will invite them to the programme information sessions, share the infographic mentioned above with them, and provide them with information about the programme on a regular basis.

4.5. Standard 5: Effectiveness of learning support systems

The physical resources and services needed to deliver the activities envisaged in the PhD programme and for the training of PhD students are sufficient and suitable in accordance with the number of PhD students and the characteristics of the programme.

5.1. The available physical resources are adequate for the number of PhD students and the characteristics of the PhD programme.

5.2. Services available to PhD students provide suitable support to the learning process and encourage access to the labour market.

Programme	Progressing towards excellence	Compliant	Compliant with conditions	Non-compliant
Doctoral programme in the Information and Knowledge Society		X		
Doctoral programme in Education and ICT (E-learning)		X		
Doctoral programme in Network and Information Technologies		X		
Doctoral programme in Health and Psychology		X		
Overall assessment		X		

Analysis and assessment

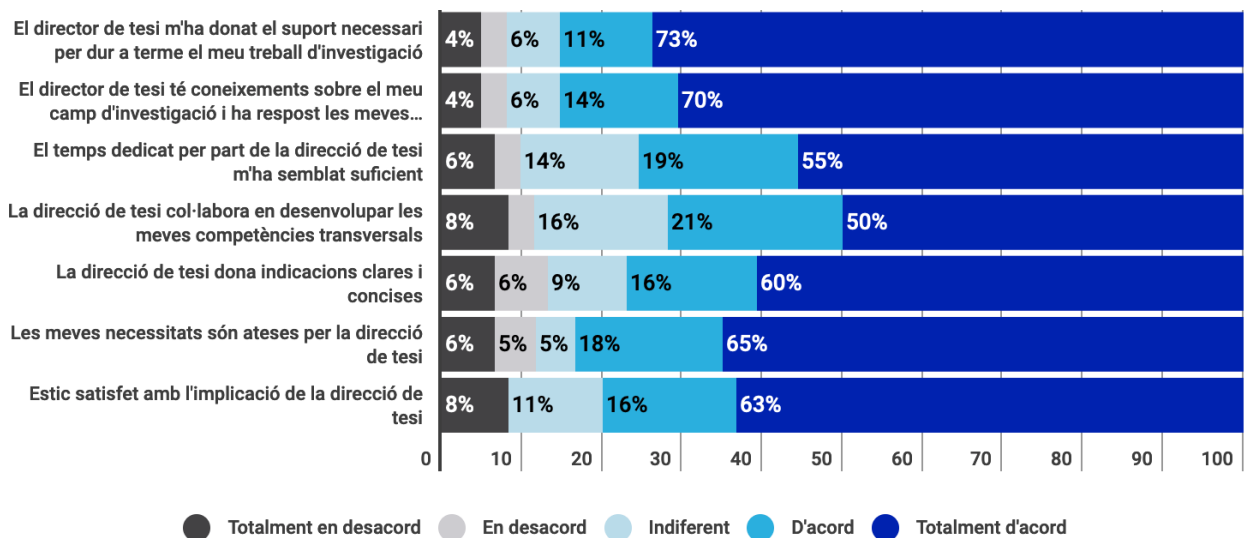
As a centre, the Doctoral School is making considerable efforts to improve the open access resources available to current doctoral students. It has published several generic help guides for both doctoral students and thesis supervisors on designing a career development plan from the first years, following a recommended set of good practices, and following open content featuring internationally renowned experts on cross-disciplinary research topics. A prime example is the resource on ethics in quantification by Professor Andrea Saltelli (http://materials.cv.uoc.edu/cdocent/PID_00284929/).

Our surveys enable us to measure the students' degree of satisfaction with the learning resources and the usefulness of the training received when subsequently joining the labour market. The breakdown of the results from the Doctoral School is as follows:

- A total of 41% of students strongly agree with the statement "I can make use of the knowledge and skills acquired on the programme in my career", and 31% agree. Only 4% strongly disagree and 11% disagree.
- Regarding classroom resources, 27% of students strongly agree with the statement "The classroom is suitable for achieving the programme's objectives"; 32% agree with this statement; 22% are indifferent; 10% disagree; and 8% strongly disagree. These results (only 51% agree or strongly agree) clearly show that research has no place in the classroom, and students see the Virtual Campus as an environment where they perform administrative work. This is justifiable, understandable and true for all universities, as the thesis is a highly individual training process involving the student and the supervisor. However, the institution must not pass up the opportunity to provide more content and resources in the virtual classroom, in order to improve the students' training experience. The classrooms for methodology and other similar courses on the doctoral programme entirely fulfil their role, but they are limited in scope in terms of the total time that students invest in the programme.
- Tutoring and support for a doctoral thesis is mainly carried out by the thesis supervisor. The students' average rating of their thesis supervision is generally positive. More than 80% strongly

agree or agree (73% and 11%, respectively) with the statement "My thesis supervisor gave me the necessary support to conduct my research project", and only 4% strongly disagree. The Doctoral School has established robust mechanisms to identify problems in this regard. There have been cases where thesis supervisions have been mediated and changed, and the theses involved have been successfully completed. Regarding the statement "My thesis supervisor is helping me to develop interdisciplinary competencies", 50% strongly agree and 21% agree. Of all the students surveyed, 65% strongly agree with the statement "My thesis supervisor meets my needs", and 18% agree (83% in total). Only 6% and 5% either strongly disagree or disagree. In response to the statement "I'm happy with my thesis supervisor's involvement", 63% and 16% strongly agree or agree (80% in total), while only 8% strongly disagree.

These results suggest that good practices are being followed in the thesis supervisions, and the human resources provided by the institution are adequate. However, we need to be vigilant and maintain an ongoing dialogue with the community of predoctoral researchers in order to identify any incidents that may lead to problems in the future. Experience in recent years shows that interventions are most effective when they take place in the early stages of disagreements.



Free seminars on searching for information and using reference tools on article indexing continue to take place and are essential for researchers in training. The feedback on the work done by the Library is positive.

For this standard, we also assessed the recommendations arising from the 2018/2019 accreditation, in order to ensure that all students (both full-time and part-time) have access to the necessary support and resources, to improve the student welcome and induction process, and to provide channels for sending complaints and suggestions to the Doctoral School.

Strengths

Inclusion of resources for drawing up an appropriate career development plan that enables students to plan for the future from the first day of their thesis, establishing such tasks as creating their own network of contacts, planning predoctoral stays and seeking postdoctoral positions in the final phase of their thesis.

A firm commitment to publishing open access resources that cover topics beyond the expertise of the thesis supervisors.

A protocol for mediation between the Doctoral School and the student, including the possibility of maintaining anonymity through the Student Council, which has identified conflicting situations and provided a solution to them, thereby increasing the positive perception of thesis supervision.

Areas for improvement

Improvement of the Virtual Campus, so that it becomes a useful space for doctoral students when carrying out their research. We are exploring the use of a Folio-based system, which would allow work to be tracked openly and feedback to be received on a personal, group or public level in the community. In short, the concept of a doctoral classroom continues to evolve, although it is as yet without any content in most universities.

4.6. Standard 6: Quality of (learning) outcomes

PhD theses, training activities and assessment are consistent with the education profile. The quantitative results of the indicators in terms of academic achievements and access to the labour market are suitable.

6.1. PhD theses, training activities and their assessment are consistent with the intended training profile.

6.2. The values for the academic indicators are adequate for the characteristics of the PhD programme.

6.3. The values for the graduate labour market indicators are adequate for the characteristics of the PhD programme.

Programme	Progressing towards excellence	Compliant	Compliant with conditions	Non-compliant
Doctoral programme in the Information and Knowledge Society		X		
Doctoral programme in Education and ICT (E-learning)		X		

Doctoral programme in Network and Information Technologies	X			
Doctoral programme in Health and Psychology		X		
Overall assessment		X		

<i>Has this indicator been adequately met? Can it be confirmed that...</i>	Yes/No			
	IKS	E-learning	NIT	H&P
<i>Programme</i>				
<i>The learning outcomes achieved are consistent with the training objectives and meet the level required according to the MECES.</i>	Yes	Yes	Yes	Yes
<i>Number of theses defended on a full-time/part-time basis, and average programme duration</i>	Yes	Yes	Yes	N/A
<i>Percentage of theses cum laude</i>	Yes	Yes	Yes	N/A
<i>Percentage of doctors with an international mention</i>	Yes	No	No	N/A
<i>Percentage of doctoral students who have done research stays</i>	Yes	No	No	N/A
<i>Scientific results of theses (quality of the theses generated)</i>	Yes	Yes	Yes	Yes
<i>Average duration of the full-time/part-time programme</i>	Yes	Yes	Yes	N/A
<i>Satisfaction results (≥ 75%)</i>	Yes	Yes	Yes	Yes
<i>Graduate indicators (trends in the number of students earning their doctorate, graduation rate, assessment of the achievement of the outcomes profile; satisfaction of doctoral students with the training received and with the achievement of competencies)</i>	Yes	Yes	Yes	N/A
<i>Drop-out indicators (changes in the drop-out rate)</i>	Yes	Yes	Yes	N/A
<i>Results available for employment</i>	Yes	Yes	Yes	N/A

Strengths

The average number of publications per thesis defended in each programme is increasing, and there are mechanisms in place for their inclusion in the personal objectives plan linked to the programme management.

Areas for improvement

Data collection is still highly manual and needs to be automated and standardized.
No information on results broken down by gender is currently available.

Analysis and assessment

Doctoral programme in the Information and Knowledge Society

The various indicators meet the quality standards. However, there have been 45 transfers to other UOC doctoral programmes. The programmes that have received most doctoral students from this programme are, in order: Humanities and Communication, Education and ICT (E-learning), and Network and Information Technologies. Students are encouraged to switch to other UOC programmes (including the Society, Technology and Culture programme from the 2021/2022 academic year onwards), so that their final qualification is more specialized and therefore more highly valued in the academic, social and economic sphere.

A total of 75% of students are satisfied with the doctoral programme overall. The percentage drops to 67% when Library workshops (complementary training) are excluded, which suggests the need to establish mechanisms for improvement in core aspects of the doctoral programme. There was a technical problem when the information was being collected, making it impossible to extract results for all the training activities.

One thesis per programme is awarded a special award every academic year. In addition, a doctoral candidate on this programme won the University's Interdisciplinary Award for her thesis in the 2019/2020 academic year. In the 2020/2021 academic year, one doctoral student was a finalist in the "Thesis in 4 minutes" competition in Catalonia and another was a finalist after participating in the Spain-wide #HiloTesis competition.

AQU Catalunya's report for 2020 shows a high percentage of employment (97%) among doctoral graduates from Catalan universities. As these are aggregated data, it is difficult to specify the employment results for the Information and Knowledge Society programme. However, the employment rate for doctoral programmes in social sciences and humanities is also very high (95%). UOC doctoral students are working either because they have a main job and are doing their thesis on a part-time basis, or because they have a research contract. After receiving a doctorate, only those whose contract was tied to completion of their thesis may be unemployed, but experience has shown that most are working when we contact them again for various collaborations. All in all, we believe that employment levels are similar to or above average.

Finally, it is necessary to provide students with tools to conduct gender-sensitive research. One of the research groups involved in the Information and Knowledge Society programme (also linked to Society, Technology and Culture programme) specializing in gender studies will provide support in this area.

Doctoral programme in Education and ICT (E-learning)

An assessment of the evidence presented in reports on learning outcomes through annual monitoring mechanisms and the quality of the theses presented shows that the programme is achieving its training objectives and meeting the required level according to MECES.

Ten doctoral theses were defended during the period assessed, of which three were by full-time doctoral students and seven by part-time doctoral students. Of these, the percentage of cum laude theses is 50%.

The pandemic had a significant impact on research stays: all those planned were cancelled and, in the end, only one doctoral student was able to carry his out. It also had a negative impact on international mentions, which were only obtained by 20% of students who completed their doctorate in this period. However, we are proactively working on this issue for doctoral students, in order to promote predoctoral stays that may lead to an international mention. As explained in previous reports, most grant-holding doctoral students (who are full-time) come from somewhere other than where the programme is located, which is why they sometimes do not consider carrying out a research stay in a third country.

The scientific results of the theses in the form of articles and contributions to conferences are reasonable, although they could be improved. Five articles (ISI/JCR) and four contributions to conferences indexed to Scopus have been identified from the 10 theses defended in this period. Most of these contributions were made by full-time doctoral students.

One thesis per programme is awarded a special award every academic year. In addition, a doctoral candidate from the programme won the University's Interdisciplinary Award for his thesis in the 2020/2021 academic year. In the 2019/2020 academic year, one doctoral student was a finalist in the "Thesis in 4 minutes" competition in Catalonia and another was a finalist after participating in the Spain-wide *#HiloTesis* competition.

The average length of stay in the programme for doctoral students receiving their doctorate during this period was 5.2 years for part-time doctoral students and 4.1 years for full-time doctoral students. This figure was one year longer than the previous assessment period in both cases but is satisfactory taking the pandemic situation into account.

The results for satisfaction with the programme obtained via a survey of the doctoral students are very positive: 75% believe that they can apply the knowledge and skills acquired in their careers, are satisfied with the programme as a whole, and would recommend it to friends and/or relatives. Due to a technical problem, the satisfaction results for other groups during this period are not available.

The graduation rate increased slightly compared to the previous assessment period, rising from 2.5 to 3.2 for all active doctoral students per academic year. When these results are broken down by gender, only three out of ten graduates are women. The average length of stay in the programme is very similar for both men and women, but only one of the three female doctoral students received a grant, while the other two recipients were men.

The average drop-out rate is 4.9%, almost one point higher than in the previous report (4.1%), but this is considered normal. However, six students are currently on leave of absence, and four of these are women, whose leave may ultimately become permanent. This indicator must therefore be monitored, assessing which factors can trigger risk situations, including an analysis of whether gender may be a factor associated with higher drop-out rates, in order to identify possible support or compensatory

mechanisms.

In its assessment of the outcomes profile based on available employment data, AQU Catalunya's 2020 report shows a high percentage of employment (97%) among doctoral graduates from Catalan universities. However, as these are aggregated data including all Catalan universities and a programme focused on education but with an interdisciplinary approach, it is difficult to determine the specific employment results for the graduates as a specific group. The employment results for graduates of doctoral programmes in the social sciences are also very high (95%), and in the technological field they are one point higher. UOC doctoral students are working either because they have a main job and are doing their thesis on a part-time basis, or because they have a research contract. After receiving a doctorate, only those whose contract was tied to completion of their thesis may be unemployed, but most are working when we contact them again for various collaborations. Despite not having any specific data for this programme in the AQU Catalunya report, experience also suggests that they are working, and are often working in academia.

Strengths

None in particular.

Areas for improvement

To the extent permitted by the situation in the international context with the pandemic, increase the number of predoctoral stays, and in particular the percentage of grant holders taking advantage of the opportunities available to carry out research stays which may lead to an international mention.

Improve the procedure for identifying and collecting evidence of scientific results derived from doctoral theses, with systematic recording of activity reports associated with the doctoral theses submitted and monitoring after graduation, supported by the UOC Library staff. Likewise, and in the same line, we aim to encourage dissemination and transfer activities during the time doctoral students spend on the programme, although the mechanisms to achieve this are still being studied.

Doctoral programme in Network and Information Technologies

The training objectives set by the doctoral programme have been achieved satisfactorily. As shown in Table 6.1, 27 theses were defended until 2021, of which 63% were completed by part-time students. This has not changed since the last monitoring report and is consistent with the profile of UOC students.

Table 6.1. Summary of quality indicators of the results

Indicator	Values
Number of theses defended in the programme until 2021	25
- Full-time	9
- Part-time	16
Average duration of the thesis (in years) until 2021	

- Full-time - Part-time	2.9 3.1
Number of theses graded Excellent Cum Laude in the 2019/2020 and 2020/2021 academic years	7 (100%)
Number of theses with an international mention in the 2019/2020 and 2020/2021 academic years	5 (19%)
Number of articles resulting from theses defended in the 2019/2020 and 2020/2021 academic years (5 theses defended) - Conference articles - JCR Articles	5 8
Graduation rate*	22%
Drop-out rate*	21.14%

* Average for all cohorts from the 2013/2014 to 2020/2021 academic years.

As in the previous monitoring report, the duration of part-time and full-time doctoral studies also does not vary excessively (2.9 years for full-time and 3.1 years for part-time), as part-time students who have completed their studies remain a minority group within the total number of part-time doctoral students. As has been the case in the past, it is estimated that the duration of part-time theses will increase as the number of theses defended in this format increases.

The quality indicators for the doctoral theses did not change substantially in the 2019/2020 and 2020/2021 academic years. As a result, the five theses defended have led to the publication of five articles at international conferences, and eight JCR articles in the first and second quartiles. Twenty-seven doctoral theses have been defended in the programme's history (including the academic years covered by this report), and 74% of those have obtained a grade of Excellent Cum Laude. However, in line with the observations for Standard 4 regarding foreign professors, only 19% of the theses defended obtained an international mention. This value is unsatisfactory, although it is partly explained by the part-time format, which usually involves combining work with the doctoral programme (which makes mobility more difficult).

Satisfaction with the doctoral programme is very high, with scores that are generally around 83%. These figures are available for consultation in the attached document (see Section 9). One aspect that is closely linked to satisfaction is the drop-out rate, which is 23.9%. The combination of high drop-out rates and high levels of satisfaction is explained by the fact that part-time doctoral students' reasons for dropping out may be due to factors unrelated to the doctoral programme and related instead to their employment situation. The drop-out rate is therefore not considered a concern at this point.

Little data on employment is available. Employment can currently be studied using doctoral students' responses to the satisfaction questionnaires (document attached in the monitoring report). It is specifically covered by the question "Can I apply the knowledge and skills acquired on the programme in my career?", which obtains a satisfaction rating of 83% and an average grade of 4.33 out of 5 for this doctoral programme. In addition to the data collected by the UOC, generic data for the Catalan system is

available for consultation at the EUC Dades website (<https://estudis.aqu.cat/dades/Web/Doctor#>). These data have not changed significantly since the last monitoring report.

No gender differences are apparent in the results. However, the small amount of data available does not permit a thorough study.

For the reasons mentioned above, the standard is achieved as progressing towards excellence.

Strengths

The strengths in this standard are as follows:

- The scientific results arising from the theses defended are of high quality, as evidenced by the number of publications and the quality of international journals and conferences.
- The doctoral students' satisfaction with the doctoral programme.

Areas for improvement

The doctoral programme's Academic Committee sees two areas for improvement:

- There is a need to carry out a project to monitor the programme's graduates in order to thoroughly evaluate specific aspects relating to employment.
- A data collection process that breaks down data by gender must be implemented. This will enable the analysis of possible gender biases.
- After examining the annual assessment of the doctoral students, the Academic Committee aims to improve the format of the documentation in order to facilitate the work of the assessors and make the doctoral students' work more efficient.

Doctoral programme in Health and Psychology

As for the **aspects subject to special monitoring identified in the programme's validation report** (see Section 2), as only one year has passed since the first doctoral students joined, it is difficult to assess the results from the theses by this first cohort, and it is too early to be able to calculate their success and drop-out rates. The 12 newly admitted students in the 2020/2021 academic year submitted their research plan in May 2021, and therefore have had little time on the programme, while those in the second cohort who joined the programme a few months ago have had even less.

According to the results for the first year of implementation based on the assessment of the work done by the doctoral students, 10 of the 12 new students handed in a work plan that was subsequently approved, and the other two were asked to redraft it. One of them has already delivered the new improved version, which has been approved. The Academic Committee is committed to quality and demanding in its assessment; at the same time, it is committed to providing extensive feedback to students.

We have also carried out specific actions in the programme to enhance the option of theses as a compendium of publications:

- We have organized two specific sessions within the doctoral programme seminar. One of them covered searching for the best journal for publishing results, in collaboration with the UOC Library. In the other, a doctoral student from another university presented her experience as a doctoral student and in completing the thesis as a compendium of publications (pointing out the advantages of this alternative to act as a model).
- A compendium of publications is presented as the most suitable option for the programme's students in various documents (e.g., the guide to preparing a research plan).

In the coming months, we will be organizing another event on open access (January 2022) and another on planning the thesis as a compendium of publications (March 2022). In the first, information will be presented on the need for publishing in open access journals, its advantages and the opportunities created as a result of agreements between universities and publishers. The second will address how to plan and structure the thesis, enhancing the maximum quality impact. Both sessions will take place as part of the doctoral programme seminar.

As mentioned above, it is too early to assess this, but some of our students have already published (or submitted) articles to high-impact journals and/or presented the results of the work done for their theses at international events. The articles by the 32 newly admitted students are listed below:

Caparros, T., Fernández, M., Mize, V., Sánchez Fuentes, J.A., Aurin, E., and Carrión, C. Physical activity and physical exercise mHealth interventions. A systematic review *JMIR* (sent for consideration).

Çakmak, K., Montesano, A., Artigas, L., Salla, M., and Mateu, C. A brief narrative intervention to improve well-being and relational ethics in couples: A mixed-method case study. Presentation of an article submitted for consideration to the 16th International Conference on Marriage and Family Therapy. Barcelona, 25-26 October 2022.

Coll, L. (2020). The impact of discrimination experiences on gender variant students' educational stems aspirations and school well-being. A qualitative study. Poster. 1st Annual Congress of Doctoral Students of the Miguel Hernández University.

Eguia, H., and Saigí, F. AI-based medical information recommenders: A systematic review. *International Journal of Environmental Research and Public Health* (sent for consideration)

Grueso, S., and Viejo-Sobera, R. (2021). Machine learning methods for predicting progression from mild cognitive impairment to Alzheimer's disease dementia: a systematic review. *Alzheimer's Research & Therapy* 13, 162. <https://doi.org/10.1186/s13195-021-00900-w>.

Ros-Baró, M., Díaz-Rizzolo, D., Acosta, A., Aguilar-Martínez, A., Medina, F.X., Pujolà, M., Casas-Agustench, P., and Bach-Faig, A. Edible insects consumption for human and planetary health: a systematic review *International Journal of Food Sciences and Nutrition* (sent for consideration).

Santabàrbara, X. Consideraciones para establecer estrategias nutricionales para la mujer deportista: ejemplo práctico a partir de la ciencia de datos. Conference on Gender and Data Science in Sport and Health, UOC (online). Oral communication.

Suelves, J., Gómez-Zúñiga, B., and Armayones, M. (2021). Changes in smoking behaviour due to the COVID-19 pandemic in Spain. 6th European Conference on Tobacco Control. Paris (France). Oral communication.

In keeping with the University's and AQU Catalunya's adherence to the San Francisco Declaration on Research Assessment (DORA), we understand the quality of results arising from theses as more than just their bibliometric data. We therefore believe it is important to:

- Prioritize both the quality and quantity of products resulting from theses: from the beginning of the programme, we emphasize the need to take quality into account, and not to overlook the potential impact of the results of research on people's quality of life and/or knowledge.
- Submit each product to assessment by different experts: all the phases of the thesis are carried out based on assessment by recognized experts in the field. This takes place starting from the research plans and continues to the thesis with the panel of experts. As noted throughout this document, the aim is to increase participation by international experts.
- Take into account formats other than articles to assess the quality of results: many other items can be important, including contributions to conferences, books and book chapters. In fact, our [academic regulations](#) include the presentation of the thesis as a compendium of publications considering different types of results.

As for drop-out, as mentioned above, two of the newly admitted students in the first cohort dropped out before submitting the research plan, and one from the second cohort also dropped out.

Strengths

Although it is still a very early stage, our students have started to present high-quality results. The Academic Committee monitors the supervision and oversight of the students very carefully.

Areas for improvement

The analyses performed show that some students (three so far) leave the programme immediately after it starts. Among other issues, this is problematic because it prevents some candidates from entering the programme due to limited places, and it also affects the work done in the programme and thesis supervision. It is therefore a point that needs to be addressed, and we propose the following measures for the programme's third cohort (starting in September 2022, selection in March 2022):

- Ask the teaching staff involved in thesis proposals to assess the motivation of candidates who contact them in more detail and provide them with detailed information on what pursuing a doctorate involves.
- Emphasize and make more explicit the involvement required in pursuing a doctorate in the tutoring classroom for welcoming candidates. The classroom will also be used to emphasize the consequences of dropping out, namely other students' missed opportunity to enrol on the programme.

5. Assessment of the programmes

5.1. Doctoral programme in the Information and Knowledge Society

The UOC is redefining its catalogue of doctoral studies, which includes phasing out the Information and Knowledge Society programme. As a result, the programme has reduced its number of students, although the number of teaching staff affiliated to the programme has not changed significantly. The programme is considered to meet the quality requirements of the system. Because it is being phased out, describing any dimension as excellent is irrelevant.

First, the study programme design (research lines, skills profile and training activities) is current according to the requirements of the educational field and it meets the required level of study (Standard 1). The update has in fact meant that this programme will be phased out starting in the 2021/2022 academic year, and replaced by the Society, Technology and Culture programme. Second, the teaching and research staff meet the needs of the doctoral programme, are suitable for its areas of specialization, and have accredited and active research levels that meet the quality standards required by the system (Standard 4). The average supervision workload is appropriate to the profile of the teaching and research staff, and the training of most junior teaching staff is promoted through joint supervision. Third, the doctoral theses, training activities and assessment are consistent with the education profile, and the quantitative results of the indicators in terms of academic achievement and employment are suitable (Standard 6). The transfer to other UOC doctoral programmes, and particularly to the programme replacing this one (the doctoral degree in Society, Technology and Culture), is being encouraged. Finally, the report for the Doctoral School covers the dimensions relating to the information addressed to all stakeholders, the internal quality assurance system, and the physical resources and services (standards 2, 3 and 5 respectively).

The recommendations received have been applied. In particular, the phasing out of the programme is a response to the recommendation to reduce the dispersal of research lines.

Some necessary improvements have also been identified. First, specific training will be provided so that doctoral students have sufficient tools to include the gender dimension in their research. Second, specific strategies will be established to achieve levels of satisfaction of over 75% for all satisfaction indicators related to thesis supervisors. Efforts will also be made to ensure that the satisfaction surveys for doctoral students do not suffer from technical problems, and the reason for the results obtained in the last semester will be examined in depth.

5.2. Doctoral programme in Education and ICT (E-learning)

The overall assessment of the doctoral programme in Education and ICT (E-learning) for the period studied is considered satisfactory after an examination of the relevant dimensions.

With regard to Standard 1, the programme design (research lines, skills profile and training activities) is appropriate and meets the required level of study, although there is still room for improvement in the

adjustment and coordination between monitoring mechanisms and the parties involved (tutors, supervisors and members of the programme's Academic Committee), which should improve the results in academic terms, as well as the doctoral students' satisfaction with the programme as a whole. The strong points are the training activities, namely the seminars held, and the improvement of the instrument for assessing candidates in the selection process for admission to the programme.

As for Standard 4, the teaching and research staff suit the programme's needs both in number and with respect to the various fields that the programme covers, with accredited and active research levels meeting the required quality standards. The thesis supervision ratio is adequate, and there is a balance between senior and junior teaching staff, the latter gradually being introduced through joint supervision. The strong points are the doctoral students' high level of satisfaction with the supervision and the improvements in teaching staff training, which must be assessed in terms of its impact on their supervisory work. Aspects that could be improved include encouraging the presence of international supervisors by increasing joint supervisions with foreign teaching staff.

The quality of the programme (learning) outcomes (Standard 6) is appropriate. In terms of the doctoral theses produced, the results of the general annual monitoring by doctoral students and supervisors, scientific publications and other associated transfer activities, it confirms the academic indicators assessed, consistency with the training profile and employment results. Increasing the number of research stays and the international mentions obtained would be a positive step towards achieving results towards excellence. However, this increase is largely subject to grants from outside the University being obtained.

5.3. Doctoral programme in Network and Information Technologies

The overall assessment of the programme is satisfactory. All the standards have been met or are progressing towards excellence. The quality standards can be subdivided into programme-specific standards (standards 1, 4 and 6) and broad-based standards applying to all the UOC Doctoral School programmes. Standards 1, 4 and 6 are assessed below.

The programme is progressing towards excellence with regard to Standard 1, quality of the training programme. As detailed in the section covering this standard, all the indicators related to the number of applications for access and admission are positive and consistent with the objectives. No improvement actions are considered necessary for this standard.

The programme is compliant with Standard 4, suitability of teaching staff. There is room for improvement in the participation of foreign teaching staff in thesis supervision and thesis committees. In order to improve this aspect, an improvement action has been proposed that focuses on improving the processes for signing international joint supervision. This may become an incentive for international collaboration.

Finally, the programme is progressing towards excellence with regard to Standard 6, concerning the quality of the programme (learning) outcomes. The analysis of the standard shows that the results

obtained are satisfactory. However, as is the case with Standard 4, there is a perceived lack of international collaboration. The actions linked to the joint supervision process will also address this shortcoming.

There is also a need to begin actions to determine the precise employment levels among those completing the programme, as well as to improve management issues such as monitoring broken down by gender and improvement of the process related to the doctoral students' annual assessment.

The overall assessment of the programme is that all quality standards are met, and some are progressing towards excellence.

5.4. Doctoral programme in Health and Psychology

The programme still has a very short history, but overall, we believe that it is being implemented appropriately and provides a satisfactory response to the special monitoring characteristics that were requested. The programme has attracted interest, with two cohorts of students having been admitted to the available places so far. The student profile is appropriate insofar as they have a background of training in various disciplines related to the programme. The distribution of students across the various research lines is also appropriate. In addition, most have not had any prior contact with the University, which indicates the interest generated by the programme and the research done by the professors involved.

However, more work is needed to attract international talent, in terms of both students and researchers/teaching staff involved in thesis committees. As this aspect may also have an impact on the other programmes, the proposal is to create a strategic plan for the Doctoral School as a whole.

The programme's team is young but is making very good progress: the percentage of ongoing recognized six-year periods, accreditations and supervision experience have increased. Nevertheless, work is ongoing to provide training opportunities in supervision skills and to increase support for less experienced teaching staff.

The quality of the outcomes is difficult to assess with such a limited history, but some results have already been recognized in publications and presentations, and actions are being taken to further enhance these results. This is without losing sight of the need for a more comprehensive assessment of the quality of the theses, according to the San Francisco Declaration on Research Assessment. In this standard, our aim is to lower drop-out rates among students before they submit their research plan (in the early stages) because this has a significant impact in organizational terms and on resource consumption, while at the same time limiting access for other potential candidates.

5.5. Interuniversity doctoral programme in Bioinformatics (UAB, UPC, UdG, UdL, UOC, UVic-UCC)

The doctoral programme in Bioinformatics, offered jointly with the UAB (coordinating university), UPC, UdG, UdL and UVic-UCC, was monitored in the 2018/2019 academic year. At the UOC, the

programme has given access to students in the Data Science pathway, and specifically to four students in the 2018/2019 cohort, two in the 2019/2020 cohort, three in the 2020/2021 cohort, and five in the 2021/2022 cohort. These figures are consistent with the training capacity that the UOC contributes to the programme, calculated as an average of four places per year at the time of validation. All these places are occupied by part-time students.

The programme has had its first thesis defence, which received the cum laude mention. The doctoral student, a researcher at Johns Hopkins University, produced a thesis with an excellent level of contributions (nine high-impact journals), and has made it possible to internationalize the programme at the level of joint supervisions and thesis tribunals.

Only two students have dropped out of the programme in its four-year history.

The programme is currently being re-validated, in order to expand the consortium to include the University of Barcelona. This does not affect the research lines linked to the UOC's Data Science pathway.

5.6. Interuniversity doctoral programme in Tourism (UMA, UA, UCA, UCM, UEX, ULL, Nebrija, UOC, URJC, USC, US, UVIGO)

The doctoral programme in Tourism, offered jointly with the UMA (coordinator), UA, UCA, UCM, UEX, ULL, Nebrija, URJC, USC, US and UVIGO, has admitted students once (six students in the 2020/2021 cohort) in the period under review, and it is not yet possible to evaluate the results in terms of publications or theses defended. The students have submitted their research plans and participated in the training activities. Eight new students (the 2021/2022 cohort) have recently joined the programme. The number of students is consistent with the training capacity of the researchers associated with the programme.

There have so far been no dropouts from the programme.

5.7. Interuniversity doctoral programme in Business Administration and Management (UPC, UPM, UPCT, UOC)

The doctoral programme in Business Administration and Management, offered jointly with the UPC, UPM and UPCT, has only admitted one cohort (six students) during the period monitored. As in the previous case, no academic results (publications or defended theses) are yet available for this period. The students have completed their research plan and are now about to complete their doctoral thesis. Four new students have joined the programme in the current academic year (the 2021/2022 cohort), which is once again consistent with the number of researchers involved in the programme. Only one student has dropped out from the 2020/2021 cohort due to a failure to present the research plan.

6. List of changes resulting from the COVID-19 health crisis

The meeting of the Inter-university Council of Catalonia that took place on 4 June 2020 agreed to consider the period between 1 June 2020 and the end of the 2020/2021 academic year, regardless of the state of emergency declared by the Spanish government, as an "exceptional period for the Catalan university system" as a consequence of the COVID-19 pandemic.

The agreement refers to the validity for the 2020/2021 academic year of the document entitled "Agreements and recommendations of the Catalan university system for ending the 2019/2020 academic year", which was approved on 21 April. It sets out recommendations for the non-face-to-face assessment of students and the completion and assessment of external internships, bachelor's degree final projects and university master's degree final projects. The text also points out the need to take into account the "Guidelines for the adaptation of university programmes in periods of health emergency and exceptional circumstances: implementation, development and accreditation", approved by AQU Catalunya's Institutional and Programme Review Commission on 25 June 2020.

Taking into account these Inter-university Council of Catalonia and AQU Catalunya agreements and documents, as well as the exceptional forecasts for the next academic year as a result of the pandemic, on 13 July 2020 **the UOC's Executive Board decided to extend the modification of the academic regulations adopted on 30 March** until the end of the 2020/2021 academic year, maintaining in force the measures listed below:

1. **The completely online format of the continuous assessment activities and the final assessment tests** (exams, synthesis tests, bachelor's degree final project, master's degree final project, etc.) will continue during the 2020/2021 academic year for bachelor's degrees, university master's degrees and UOC-certified programmes. The final tests in the first semester of the academic year (2020-1) will be carried out repeating the assessment models that we applied to the various courses last June. In the second semester (2020-2), the continuous assessment activities and the final assessment tests will be carried out according to the planned review of the assessment model, within a framework of increased integration of the assessment processes within the programmes.
2. As for **external internships, as long as the exceptional circumstances last, all the training activities in the compulsory internships will take place online whenever possible or will be assigned primarily to centres where teleworking has been implemented or is accepted as an alternative model**. In the case of internships in schools and health centres, on-site internships will continue unless there are restrictions on those activities for health reasons. If restrictions were to be applied, alternative distance activities would be set up, which would not involve on-site presence but would help develop similar skills to those called for in the internships concerned.

Structured communication measures have been adopted in order to ensure that the extraordinary measures are known to all stakeholders and reinforced by means of regular monitoring meetings of

the Office of the Vice President for Teaching and Learning with the Student Council Standing Committee.

Despite the fact that the programmes are monitored every two years, the Doctoral School issued an exceptional extraordinary monitoring report summarizing the measures adopted during the 2019/2020 academic year (see [sections 3-4](#)), which remain in full force in the 2020/2021 academic year. These measures for completing the two-yearly assessment are listed below.

The following academic content measures were adopted for doctoral programmes, and the following temporary modifications were applied to the academic planning for the 2019/2020 and 2020/2021 academic years:

- Extension of grants for full-time predoctoral researchers for a period equivalent to the duration of the state of emergency. In spite of not being required to do so, the UOC's Executive Board adhered to the thirteenth additional provision of Royal Decree-Law 11/2020 of 31 March adopting additional urgent measures in the social and economic sphere to deal with COVID-19. This Royal Decree-Law provided the option of extending contracts under calls for human resources of the funding bodies of the Spanish Science, Technology and Innovation System for a period equivalent to the duration of the state of emergency. The contracts affected by this Royal Decree-Law were those expiring between 2 April 2020 and 1 April 2021 (known internally as doctoral students in the third or last year of their grant).
- Extension of stays in cases in which the voluntary extensions had come to an end. Students who, according to the academic progress regulations, were in their final year of a doctoral programme and had used up all the extensions provided for in the regulations were able to apply for an extraordinary extension for the duration of the state of emergency if this situation had negatively affected the progress of their thesis.
- Online thesis defences. It was not possible to access the UOC's buildings to work as normal between March 2020 and January 2022. Meetings of groups of people were also prohibited. This delayed the defence of theses, and some predoctoral researchers needed to graduate in order to apply for postdoctoral positions. In coordination with the other universities in Spain (Conference of Directors of Doctoral Schools [CDED] and the Catalan Association of Doctoral Schools [ACED]), the UOC established the protocols and regulatory mechanisms for online thesis defences. These entail synchronous presentations and Q&A sessions during the defence, multiple digital signatures of reading records, and anonymous voting on the mark (cum laude) by the members of the thesis assessment board. The UOC used the platforms Google Meet and SignatureIT, and Google anonymous forms in order to provide these safeguards. Each online thesis defence is pre-authorized in writing by the President following the submission of relevant arguments by the doctoral student (authorizations in Annex 1).

A consequence of this situation is the current discussion at a national level within the Conference of Directors of Doctoral Schools (CDED) on this measure, where it is deemed to have been very successful. Many universities in the Spanish university system have included it in their permanent system as another format for thesis defences in the post-pandemic future. The UOC has also done this, in view of the fact that the necessary safeguards for a thesis defence can be fully provided and this provides major savings in terms of finances and effort for students living abroad (who account for

about half of all doctoral students at the UOC, with 47 nationalities currently represented in the programmes as a whole, accounting for 40% of the total number of students).

The thesis defences carried out online were highly rated by all the parties involved, including members of the thesis assess boards, thesis supervisors and doctoral students.

- Deferral of predoctoral contracts for 2020/2021. As a result of the crisis caused by the pandemic, and the difficulty of being able to ensure that the contracted doctoral students would be able to arrive on time at the beginning of the semester, the decision was taken to delay the start of predoctoral contracts for the 2020/2021 academic year until 1 December (instead of 1 October). This delay brought together all the doctoral students to ensure the smooth running of the seminars and activities that form part of the doctoral programmes. The delay did not entail any reduction in the duration of these contracts, which remain intact, with a term (end date) extended by two months to compensate for the delay at the beginning.

- Monitoring of grant-holding doctoral students. The director of the Doctoral School chairs bimonthly meetings with the Doctoral School team and doctoral students, at which the impact of the pandemic on this group is progressively monitored and solutions to the problems arising from it are discussed.

- Extraordinary extension of predoctoral contracts in the first and second year of the grant for a period of 100 days. At an extraordinary meeting in January 2021, the UOC Executive Board decided to extend the contracts of contracted doctoral students who were not included in the previous extension. This affected only those listed in the thirteenth additional provision of Royal Decree-Law 11/2020 of 31 March, adopting additional urgent measures in the social and economic sphere to deal with COVID-19. These extensions only affected contracts ending between 2 April 2020 and 1 April 2021 (known internally as doctoral students in the third year of the grant). In view of the long-term impact of COVID-19 on research by predoctoral students, the Executive Board decided to extend the contracts of first year and second-year students on the same terms.

- Extraordinary extension of five months for all predoctoral contracts. On 10 June 2021, mindful of the difficulties brought on by the pandemic and in accordance with Law 2/2021, of 29 March, on urgent prevention, containment and coordination measures to deal with the health crisis caused by COVID-19, the UOC Executive Board approved a five-month extension of UOC predoctoral and postdoctoral contracts and public research contracts (types FI, FPU and FPI) in force in March 2020 and ending between 2 April 2021 and 1 April 2023. With this measure, the UOC helped to alleviate the impact of the pandemic and improve the situation of contracted researchers.

The Extraordinary Monitoring Report for the 2019/2020 academic year (see [Section 3](#)) contains further details of the results of surveys answered by doctoral students assessing the impact of COVID-19 on their research activity and emotional well-being.

7. Improvement actions

See Annex 2 [Centre improvement plan. Monitoring 2019/2020 / 2020/2021](#)

8. Annexes

-Annex 1 [President's authorization of the online thesis defence](#)

-Annex 2 [Centre improvement plan. Monitoring 2019/2020 / 2020/2021](#)

Annex 1: President's authorization of the online thesis defence

Decision of the President authorizing online defence of doctoral student [*name and surname*]'s thesis

On 14 March 2020, the state of emergency was enacted in response to the health crisis caused by COVID-19, as declared in Spanish Royal Decree 463/2020, of 14 March.

Article 9 of the aforementioned Royal Decree 463/2020, of 14 March provides for the suspension of on-site educational activity in all centres and for all the stages, cycles, programmes, courses and levels of tuition listed in Article 3 of Education Law 2/2006, of 3 May, which includes university education and any other educational or training activity taking place in other public or private centres. During this period of suspension, educational activities will be continued using distance and online formats, whenever possible.

Furthermore, Article 44 of the Academic Regulations governing the UOC's doctoral studies states that with the prior authorization of the Academic Committee and as an exceptional case, doctoral students may defend their doctoral thesis remotely by electronic means. In this case, the doctoral student and the panel members must use telecommunication technologies that enable the necessary immediate interaction and simultaneous exchange of information by image, sound and, if applicable, such data that are considered relevant.

After the defence has been authorized and the panel has been appointed, the doctoral student must apply for authorization to the Academic Committee via email, giving at least one month's prior notice before the date scheduled for defence of the thesis. The Academic Committee will give its decision with respect to the application within a period of 10 calendar days, which will not be open to appeal if the decision is unfavourable.

If the Academic Committee authorizes a defence of the doctoral thesis by electronic means, it will notify the doctoral student, the panel and the units responsible for providing the necessary technical assistance of the favourable decision. Defence of the thesis using telecommunications technologies must comply with the same requirements and have the same effects as a defence in person.

Notwithstanding the above, given the extraordinary circumstances prevailing as a consequence of the declaration of the state of alert in response to the health crisis caused by COVID-19, and in order to avoid detrimental effects for the doctoral student [*name and surname*]'s rights and interests if the Academic Committee were to apply the time periods set forth in Article 44 of the Academic Regulations for the UOC's doctoral studies, in those situations in which the student had already received authorization for oral examination of the doctoral thesis during the aforementioned state of alert,

I HEREBY RESOLVE

One. To authorize the doctoral student [*name and surname*] to carry out the oral examination and defence of their doctoral thesis remotely by means of the UOC's [*online platform or space*]. The aforementioned oral examination and defence will require compliance with the requirements, insofar as they are applicable, set forth in Article 44 of the Academic Regulations for the UOC's doctoral studies concerning the remote defence of doctoral theses by electronic means.

Two. This Decision will be valid during such time as the state of alert or its subsequent extensions, and the suspension of on-site academic activities at the University agreed by the relevant authorities are in force.

Three. The Academic Committee, the doctoral student concerned, the student's thesis supervisor and tutor, and the members of the panel before which the student will defend the doctoral thesis will be notified of this decision.

Signed

Josep A. Planell
President
UNIVERSITAT OBERTA DE CATALUNYA

Annex 2: Centre improvement plan. Monitoring of the 2019/2020 and 2020/2021 academic years

Monitoring of centre improvement actions for the 2019/2020 academic year

Level	Standard	Weakness identified	Description of the cause	Proposed action	Status
IA_ centre	S1. Quality of the training programme	The technology transfer between doctoral programmes and the world of business could be improved.	There are very few industrial doctoral students.	Advise on the submission of proposals for industrial doctorate degrees: – Interviews with companies – Researcher advice service	In progress
IA_ centre	S1. Quality of the training programme	We need to sustainably increase demand for admission (the current demand is satisfactory).	No causes beyond the consolidation of the doctoral programme have been identified.	Create a Doctoral School communication and dissemination plan. Phase 1: analyse focus groups and channels. Phase 2: create a communication and dissemination plan that determines the most appropriate focus groups and channels for achieving this.	Resolved
IA_ centre	S1. Quality of the training programme	The high percentage of part-time doctoral students lowers the quality indicators.	Full-time doctoral students account for a small percentage of the total.	Increase the number of UOC-funded grants.	Resolved
IA_ centre	S1. Quality of the training programme	The high percentage of part-time doctoral students lowers the quality indicators.	Full-time doctoral students account for a small percentage of the total.	Provide advice and support to FI grant applicants.	Resolved
IA_ centre	S1. Quality of the training programme		Digital identity is a researcher's personal brand.	Build researchers' digital profiles, where work on the creation and maintenance of their profiles will be carried out in a variety of	Resolved

				places: ORCID, Publons, Scopus, Google Scholar and ResearchGate.	
IA_centre	S1. Quality of the training programme	There needs to be an increase in applications from potential doctoral candidates from the nearest universities.	There needs to be an increase in applications from potential doctoral candidates from the nearest universities. The number of applications could also be increased so we can be more selective.	Create a communication and dissemination plan for the Doctoral School establishing the most appropriate channels for achieving this.	Resolved
IA_centre	S2. Relevance of public information	There is a lack of information on the scientific results of theses.	The results of theses are not made public.	Create a specific section for research results on the website.	Resolved
IA_centre	S2. Relevance of public information	Most of the information is in three languages or only in English. In some new programmes it is also requested in Catalan and Spanish.	For some programmes, the information needs to be available in three languages. However, for some programmes it is appropriate for the information to be provided only in English.	Based on the parameters for each programme, review which ones should only be in English, and which ones need to be provided in all three languages.	Resolved
IA_centre	S2. Relevance of public information	Information about the criteria for applying for temporary or permanent leave can currently be found under <i>Procedures</i> (on the Virtual Campus) or in the Academic Regulations. This needs to be more accessible.	We should publish information on how and when to request temporary and permanent leave on the Doctoral School website, not only in the Academic Regulations and on the Virtual Campus.	Write and publish information on when and how to request temporary and permanent leave on the Doctoral School website.	Ruled out
IA_centre	S2. Relevance of public information	Include an option on the website for students, thesis supervisors and members of thesis assessment boards to download the documents they need, so that they are all accessible to everyone.	Since these documents are not available on any public web page, users without a Virtual Campus account are unable to access them.	Create a website or institutional blog showing columns by user/procedure/document/deadline.	In progress
IA_centre	S2. Relevance of public information	There needs to be more data on defended theses.	The information published on defended theses should contain more information.	Complete information on defended theses.	Resolved

IA_centre	S2. Relevance of public information	Some parts of the information on the programmes are not on responsive websites.	Some information is difficult to read on some mobile devices.	Apply responsive technology to the Doctoral School website.	Resolved
IA_centre	S2. Relevance of public information	Candidates are currently in contact with each other in the welcome classroom.	Communication between candidates, stakeholders, students, and the scientific community needs to be encouraged.	Create a doctoral community that can be accessed by both people with a doctorate and doctoral students so that they can communicate with each other.	Resolved
IA_centre	S2. Relevance of public information	At present, the admission process for doctoral programmes is only published on the Doctoral School website before logging in.	The admission process can be accessed from the website but not from within the information on each programme.	Create an <i>Apply to the programme</i> option on each programme's website and in the personalized Virtual Campus access profile for doctoral programme candidates and provide this information in the welcome classroom.	Resolved
IA_centre	S2. Relevance of public information		The information on the general and specific competencies of each programme needs to be more accessible.	Specify the general and specific competencies on the website for each programme.	Analysis ongoing
IA_centre	S2. Relevance of public information	This information is currently published in the <i>Programme of Study Incorporation</i> tab.	Students need to be able to find which profiles will support them in the information on each programme.	Specify the people providing support (tutors) for students in the online information on each programme.	Resolved
IA_centre	S2. Relevance of public information	This information is currently published in the doctoral candidate profile.	Students need to be able to find the procedures for submitting the thesis and the specializations (mentions) outside the website rather than just in the Virtual Campus.	Provide details on the doctoral thesis submission and defence process, as well as on the process for obtaining an international doctoral degree.	Resolved
IA_centre	S2. Relevance of public information	The career opportunities arising from the doctoral programmes have not been published.	A section on the career opportunities arising from each programme needs to be included on each doctoral programme's website.	Write up the career opportunities arising from each programme and publish this information on the website for each programme.	Analysis ongoing

IA_centre	S2. Relevance of public information	Difficulty finding the information searched for on the website	The information required by thesis supervisors, thesis committee members, the members of the doctoral programmes' academic committees and cohort tutors needs to be available.	Create an area on the Doctoral School website with the information required by thesis supervisors, thesis committee members, academic committee members and cohort tutors.	In progress
IA_centre	S2. Relevance of public information	The admission profile for each doctoral programme does not appear on the website.	Candidates need to be able to find the expected admission profile for each programme.	The information sheet on each doctoral programme needs to include a description of the expected admission profile.	Analysis ongoing
IA_centre	S2. Relevance of public information	Students need to know what the research plan is.	Doctoral candidates or interested parties may be confused about what a research plan is.	Each programme's information sheet in the Programme of Study needs to contain an explanation of what the research plan is.	In progress
IA_centre	S2. Relevance of public information	Only the research profiles of those researchers who have a published thesis offer are visible.	The public information is insufficient.	Publication of the information on all the teaching staff/researchers in the doctoral programme.	In progress
IA_centre	S2. Relevance of public information	Results are given insufficient publicity.	Contributions published under the programme are not visible on the website.	Post the best publication results on the Doctoral School website.	In progress
IA_centre	S2. Relevance of public information	The public information on the indicators of some aspects is insufficient.	There is no public data on some employability satisfaction indicators.	Publish the satisfaction and employability results on the Doctoral School website. Likewise, publish academic results.	In progress
IA_centre	S2. Relevance of public information	There needs to be more data on the quality of outcomes on the portal's <i>Data</i> page.	Some doctoral data have not been published.	Publish all doctoral data on the UOC portal's <i>Data</i> page.	In progress
IA_centre	S2. Relevance of public information	External assessment reports appear on the UOC's <i>Quality</i> website but not on the Doctoral School website.	If all the information concerning the doctoral programmes that is provided on the Virtual Campus and the portal is also included on the Doctoral School website, this website will have too much information.	It is not appropriate.	Resolved

IA_centre	S2. Relevance of public information	Although the website provides details of all the steps and procedures that need to be carried out, if this were displayed in a more intuitive way, it would provide another support tool for students.	Doctoral candidates struggle to fully understand the necessary formalities and timing.	Produce visual diagrams that clearly show doctoral candidates the steps and processes to be followed at any given time. Publish it on the Doctoral School website.	Resolved
IA_centre	S2. Relevance of public information	At present, some of the information can be found on the Doctoral School website, because it was decided that if it were included in the programme website, there would be too much information and it would be difficult to view.	On the website for each programme, students need to be able to view the learning resources they will have, the laboratories, and the training activities and stays they will have to carry out.	Write and publish a text with a list of the learning resources, laboratories, and training activities to be carried out in each programme.	In progress
IA_centre	S3. Efficacy of the internal quality assurance system	There are no data on thesis defence satisfaction.	There are no data on thesis defence satisfaction.	Collect data on thesis defence satisfaction.	Resolved
IA_centre	S4. Suitability of teaching staff	Although the teaching staff's dedication to research is appropriate, actions to increase it need to be taken.	The teaching staff's dedication to research is one of the keys to the quality of research and also of the doctoral programme.	– Establish reductions in teaching workloads. – Include research activity assessment criteria.	Resolved
IA_centre	S4. Suitability of teaching staff	A small number of faculty members supervise more than four theses.	Some thesis supervisors supervise more than four theses.	We need to analyse how many theses are supervised by each supervisor and whether they need to be better distributed.	Resolved
IA_centre	S4. Suitability of teaching staff	The rate of satisfaction with the work carried out by thesis supervisors is lower than 80%.	The rate of satisfaction with the work carried out by thesis supervisors is lower than 80%.	We must find actions to increase doctoral candidates' satisfaction with their thesis supervisors.	Resolved
IA_centre	S4. Suitability of teaching staff	Although the teaching staff's dedication to research is appropriate, actions to increase it need to be taken.	The teaching staff's dedication to research is one of the keys to the quality of research and also of the doctoral programme.	Encourage joint supervision of doctoral theses.	In progress

IA_centre	S4. Suitability of teaching staff	Although the programme's teaching staff carry out research stays, this is a useful activity to maintain.	Research stays result in better training for doctoral candidates.	Promote and encourage research stays abroad.	In progress
IA_centre	S5. Effectiveness of learning support systems	Organize a welcome event for students, possibly using video conferencing channels.	Students need to have some contact with the university and some generic information on the programmes.	Create a guide to the programme with generic information to ensure that students have it from the beginning.	Resolved
IA_centre	S5. Effectiveness of learning support systems	Online students have no access to software or technological support.	Online students have no access to software or technological support.	Make the same resources available to online students as to on-site students.	Resolved
IA_centre	S5. Effectiveness of learning support systems	Add a complaints and suggestions box to the Doctoral School website.	Provide the opportunity to send complaints and suggestions to the Doctoral School from a mailbox to anyone.	This is not appropriate.	Ruled out
IA_centre	S5. Effectiveness of learning support systems	The need for campus technological support on what should be a doctoral classroom, with its time targets and specific assessment and monitoring needs.	The current Virtual Campus classrooms do not meet the needs of either doctoral candidates or thesis supervisors.	We need to create classrooms tailored to the needs of doctoral programmes.	Pending
IA_centre	S5. Effectiveness of learning support systems	The current management tools have become obsolete and furthermore, are not tailored to doctoral programmes.	The current management tools are not suitable for doctoral programmes.	GAUDÍ will have to cater for the needs/requirements of doctoral programmes.	Pending
IA_centre	S6. Quality of (learning) outcomes	The average number of publications per thesis is 0.4% (IKS data).	The average number of publications per thesis is 0.4% (IKS data).	Set out the actual or planned publications in the activity document for assessment in the assessment report sent to students.	Resolved
IA_centre	S6. Quality of (learning) outcomes	The monitoring of competency acquisition is yet to be implemented.	This activity still follows the traditional assessment guidelines.	Adjust the assessment guidelines.	Pending

Improvement plan: Monitoring of the 2020/2021 academic year

Level	Programme	Standard	Weakness identified	Description of the cause	Proposed action
IA_ centre		S1. Quality of the training programme	Increase international student enrolment.	International dissemination needs to be increased and agreements established in order to attract international talent to the various programmes at the Doctoral School.	From 2022, a strategic plan will be designed to increase the internationalization of programmes at the School.
IA_ centre		S6. Quality of (learning) outcomes	No data broken down by gender for the programmes are currently recorded or studied.	The lack of this information was identified during the preparation of the monitoring report.	Regularly record and disseminate results broken down by gender.
IA_ centre		S6. Quality of (learning) outcomes	The implementation of joint supervision and cooperation agreements must be very flexible.	The time taken to reach joint supervision or cooperation agreements must be reduced.	Design a new management process for joint supervision.
IA_ centre		S6. Quality of (learning) outcomes	There are as yet no significant data on employment among Doctoral School graduates.	Surveys need to continue to be produced to have long time series and significant results.	Monitor the employment surveys.
IA_ progra mme	Doctoral programme in Education and ICT (E-learning)	S1. Quality of the training programme	Improve the tools for monitoring the work of doctoral students in the programme, in terms of both the research plan and the training plan.	Instruments for monitoring the work of doctoral students on the programme need to be more formative and useful as a tool for reflecting on and improving the learning process, combining assessment elements from the research and training plans.	The guidelines and models for the preparation of the doctoral students' activity reports and the supervisors' annual progress reports will be reviewed.
IA_ progra mme	Doctoral programme in Education and	S1. Quality of the training programme	Improve and clarify the role of tutors in supporting and monitoring doctoral students, and the communication and coordination	The tutors' role and functions are not entirely clear to doctoral students and supervisors, and we believe that it is	Apart from providing more information about tutors' role with regard to the various parties involved in the

	ICT (E-learning)		between tutors and the other agents in the programme.	possible to enhance them as a key figure to a much greater extent. This would make other procedures and circuits more flexible, could clarify many processes and situations, and have a positive impact on the well-being of doctoral students.	programme, an infographic resource explaining their tasks (and the relationship of these with key milestones in the doctoral students' training) will be produced.
IA_ progra mme	Doctoral programme in Education and ICT (E-learning)	S4. Suitability of teaching staff	Increase the involvement of foreign teaching staff in programme assessment processes and improve and streamline doctoral thesis assessment processes.	The involvement of foreign teaching staff in the programme could be improved, especially in the area of joint supervision. Foreign teaching staff are present in the thesis assessment processes but these processes are sometimes not very flexible, and it is difficult to find suitable faculty. Furthermore, these members of teaching staff are not very visible in the programme assessment reports because their data are not collected systematically.	Establish a panel of experts in the areas of doctoral and multidisciplinary research, consisting of external and foreign UOC teaching staff. This panel would be involved in the external assessments of the theses deposited and could also potentially take part in some thesis assessment boards. The increase in interuniversity links could also possibly facilitate and increase opportunities for joint supervision.
IA_ progra mme	Doctoral programme in Education and ICT (E-learning)	S6. Quality of (learning) outcomes	Improve the procedure for identifying and collecting evidence of scientific results derived from doctoral theses	The procedure for identifying and collecting evidence of scientific results resulting from doctoral theses can be improved and is not sufficiently systematized.	Carry out a systematic recording of the activity reports attached to the doctoral thesis repositories and monitor them after graduation, with the support of the UOC Library staff.
IA_ progra mme	Doctoral programme in Education and ICT (E-learning)	S6. Quality of (learning) outcomes	Encourage dissemination and transfer activities during the doctoral students' time in the programme.	Encouraging and increasing the doctoral students' work in terms of research dissemination, communication and transfer as part of their research training is useful.	The specific actions that could be taken are still being studied.
IA_ progra mme	Doctoral programme in Health and Psychology	S4. Suitability of teaching staff	The internationalization of the programme needs to be increased.	The presence of international teaching staff on thesis committees needs to be increased, as this may increase the programme's visibility in other places.	Starting with the next cohort (beginning in September for the 2022/2023 academic year), tutors will be asked to explicitly consider the inclusion of international researchers in their thesis committee proposals.

IA_ progra mme	Doctoral programme in Health and Psychology	S4. Suitability of teaching staff	Increase training for teaching staff in leadership skills and provide information about the programme to all members of thesis committees.	The aim is to continue offering training in supervision skills for teaching staff.	We plan to hold a soft skills workshop and produce an infographic in 2022.
IA_ progra mme	Doctoral programme in Health and Psychology	S6. Quality of (learning) outcomes	The percentage of students leaving the programme at the beginning must be reduced.	Inform potential supervisors and initial tutors of the importance of commitment and the work required to complete the doctoral programme.	Send a message to the teaching staff involved in the programme to explain the importance of setting realistic goals with students and assessing the time they have available before enrolment and reinforce this information in the programme presentation session held every year for the teaching staff involved.
IA_ progra mme	Doctoral programme in the Information and Knowledge Society	S4. Suitability of teaching staff	Student satisfaction with thesis supervision averages 73%. Of the seven indicators listed, the most negative score is for the thesis supervisor's involvement in the development of interdisciplinary competences (57% satisfaction).	Students' satisfaction with the involvement of thesis supervision in the development of interdisciplinary competences needs to be improved.	
IA_ progra mme	Doctoral programme in Network and Information Technologies	S6. Quality of (learning) outcomes	There is an increasing difficulty in the proper functioning of the annual assessment process. Reviewers often require additional information or would like a simpler method for sending the assessment.	The information provided to reviewers for the annual assessment needs to be simplified and supplemented.	Modify the forms (content and format) for the annual assessment.