

National standards and regulations for doctoral education in eight European countries

Prepared by the OECD higher education policy team as a background paper for an informal policy exchange on national regulations and approaches to quality assurance of doctoral education

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Contents

Reader's note	3
1. Doctoral education in Estonia	4
2. Doctoral education in Lithuania	6
3. Doctoral education in the Slovak Republic	8
4. Doctoral Education in Hungary	10
5. Doctoral Education in Poland	12
6. Doctoral Education in Portugal	14
7. Doctoral Education in Ireland	16
8. Doctoral Education in Finland	18

Reader's note

This paper documents and summarises standards and regulations established at national level for doctoral education in eight European education systems – Estonia, Lithuania, Poland, Ireland, Finland, Slovakia, Hungary and Portugal.

Its objective is to showcase a selection diverse approaches to establishing national standards and criteria for organisation of doctoral education, supervision and assessment and external quality assurance. It also provides some illustrative examples of how the national criteria are adapted at institution level.

The document contains only short summaries of each national context and some features of note in each of the reviewed countries. It is not intended to be exhaustive – it serves only as a starting point for deeper research. However, for each country, links are provided in the footnotes, providing access to more detailed information on the organisation, national standards/regulations and approaches to quality assurance of doctoral education.

In the context of this document "standards" and "regulations" can be taken to mean any nationally established criteria or requirements governing doctoral education provision, by which at least public higher education institutions are generally expected or legally required to abide. Where relevant, the descriptions below distinguish between requirements that are set as statutory regulations and those that are established as norms in the system (for example, through collective agreements).

1. Doctoral education in Estonia

National-level standards for doctoral education in Estonia are established through the Higher Education Act ¹, the state standard for higher education ² and the quality agreement for doctoral education developed through the Estonian Rector's conference (*Eesti Rektorite Nõukogu,* ERN) and signed in 2020. Additional standards may be developed autonomously by individual higher education institutions.

ORGANISATION OF DOCTORAL EDUCATION

- 1. According to the state standard for higher education, the standard duration of doctoral education is 3-4 years full-time (180-240 ECTS). Research and development activities should comprise at least 70% of the programme.
- 2. Full time doctoral candidates in state-funded places are usually employed by their institution or another institution related to their research as junior researchers.
- 3. Doctoral schools may be organised in Estonia as inter-university consortia. There is also a specific "transfer of knowledge" doctoral degree pathway intended for externally employed candidates, oriented towards those wishing to gain a PhD to progress their careers outside of academia, and promoting university-industry collaboration.
- 4. Candidates must have a master's degree or equivalent qualification to enter. ³ Higher Education Institutions are free to set additional criteria for admission (e.g. interviews, research proposal, doctoral entrance examination).

- 5. Issues related to supervision, progress assessment and defence of doctoral theses are the competence of individual higher education institutions. Both a one-supervisor and co-supervisor system may be applied, and supervisors or co-supervisors from foreign states are permitted.
- 6. The state standard for higher education specifies that at least 85 per cent of the subjects determined in the study programme of doctoral study shall be taught by teaching staff who have a doctoral level degree or a corresponding qualification and are active in research and development in the corresponding field of study, or creative persons recognised in artistic fields at a high international level.
- 7. Supervision competencies are also related to the procedure for elections of professors. The state higher education standard establishes that when running for the position of a professor at a university (except when the person has not previously worked as a professor, and in case of running for the position of professor in the arts field), at least one doctoral thesis must have been defended under the supervision of the candidate in the last five years.
- 8. In 2020 the Estonian universities signed a collective quality agreement on doctoral studies⁴. In this quality agreement, minimum requirements are specified for doctoral education supervision, assessment and defence, including the following:

¹ Higher Education Act–Riigi Teataja, 2019

² Standard of Higher Education–Riigi Teataja, 2008

³ <u>Quality Management vs Quality Control, Heli Mattisen and Brigit Kuldvee, 2022,</u>

⁴ Quality agreement on doctoral studies, 2020

- a. Doctoral thesis supervision may be carried out only by those with a doctoral degree or equivalent
- b. Doctoral defence committees must have at least five members with doctoral degrees or equivalent
- c. A doctoral thesis must comprise a monograph, a series of research papers (published or accepted for publication) or an independent study published as a dissertation. If the thesis is a research work, in general three (published or accepted) publications are expected to be completed as a minimum.
- 9. According to the Higher Education Act, regular progress assessment of doctoral candidates within their programmes is required, according to procedures that are established by individual higher education institutions.

- 10. Doctoral studies are included as part of the institutional accreditation carried out by the Estonian Quality Assurance Agency (HAKA). One of the QA standards therefore addresses Research, Development and Other Creative Activity. Quality assessment of study programme groups at the doctoral level is no longer carried out by HAKA.
- 11. In the Estonian state higher education standard, some requirements for doctoral studies are laid out, including the expectation for suitable and necessary premises, equipment and IT infrastructure, and adequate financing sources for doctoral study.
- 12. The right of a university to provide doctoral education may be revoked if the research activities of a research field serving as the basis for doctoral studies receives a negative evaluation in the external R&D evaluation organised by the Estonian Research Council.
- 13. ENQA noted in its 2023 external review of HAKA, with regard to evaluation of research in the Estonian universities: "An aspect to consider is the role of HAKA and the role of the Estonian Research Council, although both entities have different functions, some assessments would have some overlaps..... The role of HAKA in this process should be relevant in order to assure the quality of master's and PhD programmes. In this sense, the Estonian Research Council, the Ministry of Education and Research and HAKA should cooperate as much as needed to avoid duplicating certain assessments."

EXAMPLES OF POLICIES IN INDIVIDUAL HEIS

Each institution in Estonia develops its own policies and standards for doctoral education in accordance with the nationally agreed quality standards. For example:

- In Tallinn University, a doctoral supervisor must not only have a PhD but must have a minimum number of research publications in the previous five years. Doctoral studies councils must have three or four members who are qualified as supervisors in Tallinn University regulations.
- Taltech specifies in its requirements that the doctoral education it provides should be broadly comparable to what is found in Nordic universities. In Taltech, the university establishes a defence committee which should include at least two opponents (external examiners), which should come from outside Taltech and one of which should be international.⁶

⁵ HAKA External Review, 2023

⁶ Doctoral Thesis Opponents Guidelines, Taltech, 2021

2. Doctoral education in Lithuania

Doctoral education standards in Lithuania are established through the Republic of Lithuania Law on Higher Education and Research⁷ and regulations for doctoral studies⁸ (covering both arts⁹ and science doctorates¹⁰) proposed by the Lithuanian Research Council and approved by the Ministry of Education, Science and Sports, and individual institutions.

ORGANISATION OF DOCTORAL EDUCATION

- 1. Full time doctoral candidates may be employed on fixed-term employment contracts lasting no longer than until the end of their doctoral studies, with persons accepted for the positions of junior assistant and junior research worker. These contracts can be extended for a maximum period of one year.
- 2. Doctoral programmes are legally categorised either as doctorate of arts or doctorate of science. Scientific and study institutions with doctoral rights granted by the Ministry may conduct doctoral education. The procedure for evaluating institutions for the purpose of granting rights is updated periodically, based on proposals by the Research Council of Lithuania. Rights are awarded in specific study fields and may be given to a single HEI or as joint rights including other HEIs or research institutes.
- 3. State-funded doctorate places are distributed to research and study institutions with the right to a doctorate through tender terms determined by the Minister of Education, Science and Sports, with the help of the Lithuanian Science Council.
- 4. Candidates must have a master's degree to enter doctoral education.

- 5. The regulation for science doctorates developed by the Research Council of Lithuania requires that all PhD students must complete 30 ECTS in coursework, including a transversal skills module of 5 ECTS. Regulations for arts doctorate coursework are more complex.
- 6. The provider of doctoral education should set up a Doctoral Committee, with slightly different requirements for arts and science doctorates. For science doctorates, the doctoral committee must include at least 9 scientists actively conducting high-level scientific research who have taken up positions through a competitive procedure in the institution or have been working there for at least 0.5 full-time positions for the past three years. The arts Doctoral Committee should similarly consist of 9 internationally recognised artists, high-level research scientists and/or doctors of arts working in the institution(s). The scientific competence of the members of the committee in doctoral studies and related fields of science is periodically assessed by the Council, and the committee should be renewed every five years
- 7. A supervisor may not simultaneously supervise more than 4 doctoral students at a time for arts doctorates, or 5 students at a time for science doctorates. Furthermore, academics may not sit on more than two Doctoral Committees at a time.

⁷ Law on Higher Education and Research, 2009, amended 2015

⁸ <u>Regulations on doctoral studies</u>

⁹ Approval of the regulations for provision of the Doctor of Arts

¹⁰ <u>Regulations for doctoral studies in science and arts</u>

- 8. A Doctoral Defence Council, consisting of 3-5 members is appointed by the Doctoral Committee. Members of the defence council should not have any joint publications with the candidate being assessed. Both supervisors of doctoral students and members of defence councils must meet qualification requirements no lower than those established by the institution for persons seeking to occupy the position of senior researcher.
- 9. Modified criteria to those above may apply where doctoral study is conducted jointly with another institution.

- 10. In Lithuania the Centre for Quality Assessment in Higher Education (SKVC) is the agency with primary responsibility for the external evaluation and accreditation of higher education institutions and short-cycle, bachelor's and master's programmes (i.e. ISCED levels 5-7), while the Research Council of Lithuania is primarily responsible for the assessment of the quality and efficiency of doctoral studies carried out by institutions. It must organise an assessment of the quality and effectiveness of doctoral studies at least every 5 years. The assessment shall assess the consistency of the goals of doctoral studies with the mission and strategy of the institution(s), the quality of doctoral studies and doctoral results, the efficiency of doctoral studies management, the adequacy of human resources, and the effectiveness of doctoral studies. The quality is assessed on a 5-point scale.
- 11. Lithuania intends to strengthen the links between SKVC's education-focused evaluations and the RCL evaluations of HEIs' research and development (R&D) activities, which for several decades have developed almost entirely separately from each other. More specifically, from 2029 the government wants the evaluation of institutions' R&D activities to inform their right to offer bachelor's and master's programmes in related study fields.¹¹ This is part of wider efforts in Lithuania to strengthen HEIs' research capacity and to promote research-based teaching and learning practices in higher education.

EXAMPLES OF POLICIES IN INDIVIDUAL HEIS

12. The Kaunas University of Technology has been awarded 10 joint rights to implement doctoral study with other Lithuanian institutions and 1 joint right to implement doctoral study with a foreign university. Its regulations on doctorates are prepared to cover the programmes in which it is the coordinating institution for the joint study, using the national regulations of the Research Council of Lithuania as a basis. Some adjustments are made considering that doctoral study is conducted jointly.¹² For example, the Doctoral Committee is drawn from both participating institutions but (in the case of joint doctoral study with a foreign university) at least half of the Committee must be scientists from Lithuanian institutions. Research consultants can also be nominated by candidates and their consultants and have to meet the same minimum requirements as for supervisors set by the Kaunas University of Technology for individuals applying for the position of a senior researcher (have published a minimum number of scientific papers in the last five years in Q1 or Q2 international scientific journals with relevant impact factor or citation index). Moreover, only scientists who are conducting research on the topic of a reviewed dissertation and who are holding at least the position of an associate professor or a senior researcher may be accepted as dissertation reviewers.

¹¹ Strengthening the system of evaluation and quality assurance of higher education and vocational education and training in Lithuania, OECD (forthcoming, 2025)

¹² Kaunas University of Technology doctorate regulations (in English)

3. Doctoral education in the Slovak Republic

Doctoral education standards in the Slovak Republic are set by the Law on Higher Education Institutions (131/2002). ¹³ Quality assurance is covered by separate act on quality assurance in higher education (269/2018) and carried out by the Slovak Agency for Accreditation in Higher Education. ¹⁴

ORGANISATION OF DOCTORAL EDUCATION

- 1. The standard length of full-time study to obtain a PhD is three or four years (180-240 ECTS). Part-time study can take four years (180 ECTS) or five academic years (240 ECTS).
- 2. Those pursuing a doctoral degree have student rather than employee status. First-time full-time PhD students can apply for a state scholarship for the standard duration of their study. The scholarship is not subject to taxation.
- Two types of doctoral degrees can be awarded, 'Philosophiae doctor' or PhD, or 'Artis doctor' or ArtD. External institutions such as recognised research organisations, can co-operate with higher education institutions to offer doctoral study projects. They can also develop research topics independently to offer to doctoral students.
- 4. Candidates must have a master's degree or higher to be admitted. The higher education institution defines the topics of dissertations theses that can be the subject of doctoral study, and a supervisor is appointed for each topic. The applicant will then apply to study one of the topics offered. The number of applicants to be admitted is left up to each higher education institution.

- 5. Doctoral study is organised according to an individual study plan for the student developed under the guidance of a supervisor. The only legally defined requirement is that the supervisor for the relevant field of study should be a teacher at the institution or another appropriate expert who is approved by the scientific council of the institution (or faculty).
- 6. Doctoral study is comprised of a study part and a scientific part. The study plan consists of lectures, seminars, and individual study of scientific literature relevant to the dissertation thesis. The scientific part of the doctoral work is professionally guaranteed by the supervisor. Full-time doctoral study also requires pedagogical or similar work for a maximum of four hours per week.
- 7. Doctoral programmes are monitored and evaluated by a professional committee for each relevant field, appointed through internal regulations of the higher education institution. The committee approves the proposal of the study part of the plan submitted by the supervisor. The higher education institution creates conditions for the implementation of the research part, either though individual research or in a research team. The study part is a subject of annual assessment connected to the accumulation of credits for individual activities. An annual assessment of progress of students is carried out by the supervisor.
- 8. The condition for the proper completion of doctoral studies is the defence of a dissertation thesis. The examination committee is required to have at least four members. A university may conclude an agreement on joint defence of a dissertation in accredited doctoral study programmes with a foreign

¹³ Law on Higher Education Institutions 31/2002

¹⁴ Law on Quality assurance of higher education 269/2018

university, if permitted in the legal regulations of the state of the foreign party. The members of the examination committee must include equal representation of Slovak and foreign parties and have at least four members.

EXTERNAL QUALITY ASSURANCE

- 9. The Slovak Accreditation Agency for Higher Education (SAAVS) provides external quality assurance for all higher education first-, second- and third-level cycle programmes. The Slovak QA system has moved from study programme to institutional accreditation.
- 10. A single set of standards for study programs is applicable across all levels of higher education. The standards were most recently updated in September 2024. The only distinctive feature for PhD programmes is that teachers delivering courses within a PhD programme should demonstrate outputs of their research at least at an internationally significant level, which is higher than in lower levels.¹⁵
- 11. Doctoral studies in each field of study are monitored and evaluated by a departmental committee. HEIs may form join departmental committees in individual fields of study.
- 12. According to the most recent external review of SAAVS by ENQA, it was concluded that 'programme evaluation standards may not fully address the needs for PhD programmes, particularly with regard to the monitoring and support for research students.' The panel recommended that the agency review the application of its methodology to PhD programmes. ¹⁶
- 13. A Periodic Evaluation of Research, Development, Artistic and Other Creative Activities was carried out by the Ministry of Education, Science, Research and Sport of the Slovak Republic as a pilot project in 2022¹⁷. The results of the Periodic Evaluation are expected to be reflected in the funding of science and research in the Slovak Republic, starting in 2024, but do not at this stage appear to have implications for the provision of doctoral education.

EXAMPLES OF POLICIES IN INDIVIDUAL HEIS

- 14. The Faculty of Commerce at the University of Economics in Bratislava has the rights and obligations of doctoral supervisors set in their internal regulations. Some of the obligations of supervisors include preparing a study and scientific plan, professionally guarantee the scientific part of the doctoral studies, annually evaluate the activity of the doctoral student, express an opinion on all applications submitted by the doctoral student, and suggest three opponents of the dissertation for the final defence.¹⁸
- 15. The internal regulations at the Comenius University, Bratislava, specify the qualification requirements for supervisors. This position can be held by teachers, research staff, or other experts actively engaged in research, who publish their outputs in peer-reviewed publications and present them at international events. The supervisor proposals are approved by the scientific board at the relevant faculty. The proposals for appointments are submitted by the guarantor of the given doctoral study programme. The faculty quality assurance board must present a statement for the appointment of the supervisor. The faculty may also set other qualification requirements for the appointees.¹⁹

¹⁵ SAAVS – Standards for Study Programmes

¹⁶ ENQA: SAAHE external review report

¹⁷ <u>VER 2022</u>

¹⁸ Principles of the organization of doctoral studies

¹⁹ Internal Regulations, Comenius University, Bratislava, article 51

10 |

Doctoral education standards in Hungary are set by the Higher Education Act of 2011, as well as by Government Decree No 387/2012²⁰

ORGANISATION OF DOCTORAL EDUCATION

- 1. Doctoral training can only be conducted within the framework of a doctoral school. At least 240 ECTS must be obtained during doctoral training (or 180 ECTS for doctoral programmes in business and international joint programmes). As well as traditional doctoral education, Hungary's National Research, Development and Innovation office also offers the Cooperative Doctoral Training²¹ pathway, which provides financial support to doctoral students who are also conducting research in business and industry while pursuing their doctoral degree, as well as support for their mentors.
- 2. Doctoral candidates participating in training provided by universities have student status. Those funded by the state are entitled to a research scholarship through the University Research Scholarship Programme of at least HUF 125 000 per month in the first four semesters, increased after a complex example a prerequisite of the next four semesters up to a maximum of HUF 250 000. Students participating in Hungary's Cooperative Doctoral Training programme receive HUF 400 000 per month.
- 3. Doctoral schools should identify the branches of sciences (including branches of art) in which doctoral programmes will be offered and have seven, nine, eleven, or more core members, depending on the number of disciplines of research performed. Most core members should be university professors and this is valid for the schools of one and two disciplines. Multidisciplinary doctoral schools (those working in at least three branches of science) shall have at least three core members per branch of science.
- 4. PhD and DLA candidates enrolled in training must have a master's degree or above, and knowledge of a foreign language required for performing research in the chosen discipline. Doctoral schools are required to publish admission requirements annually, and to rank and admit applicants based on their performance and the statutory maximum number of candidates permitted by the institution for the field. Dissertation topics to be offered are approved by (and may be proposed by) the doctoral school council.

REQUIREMENTS FOR SUPERVISION, PROGRESS ASSESSMENT AND DEFENCE

5. Supervisors of the PhD candidates' research should have an academic degree and are selected by the doctoral school based on their scientific performance. Supervisors must announce the research topic they expect candidates to apply for. Core members, employed full-time by the higher education institution, are expected to carry out supervision, and perform continuous high-level academic/scientific research that is nationally and internationally recognised (registered in the national academic bibliographic database) and have at least one doctoral student with successful defence of PhD. A full-time employed staff member in a research institute holding the title of Doctor of the Hungarian Academy of Sciences may also be a core member if they meet the same criteria. One of the core members may also be an emeritus professor. A doctoral student may also work with two supervisors simultaneously. The doctoral schools regulate the number of PhD candidates per supervisor (three in general).

²⁰ Decree No 387 2012 on doctoral education

²¹ <u>Cooperative Doctoral Programme</u>

- 6. The act on higher education requires higher education institution senates to establish Doctoral Councils where at least two of the members are not employed by the institution and no conflict of interest. The Council gives opinions on the initiatives of establishing doctoral schools, evaluate the outcome of the doctoral schools' programmes and decide on awarding of credits, assessment of doctoral candidates and criteria for the award of doctoral degrees. Voting members of the Council school meet the same criteria as core members. The Doctoral Council appoints the head of the doctoral school and the doctoral school council members, who approve supervisors and dissertation topics to be offered by the doctoral school.
- 7. The Higher Education Act specifies that at the end of the fourth semester, to mark the conclusion of the training and research phase of the programme and as a condition for the commencement of the research and dissertation phase. Passing the complex exam evaluating the progress in academic and research progress in the first four semester is the prerequisite of continuation. Doctoral school councils may decide on matters relating to the complex examination.
- 8. The results of independent scientific work or independent artistic creative activities shall be summarised coherently in the theses accompanying the doctoral dissertation. New knowledge achieved is itemised based on the professional publications or artistic works of the candidate. There should be two official referees for each doctoral dissertation, one of which shall not have an employment relationship with the higher education institution. Dissertations are defended publicly in front of the board of referees.

- 9. The Hungarian Accreditation Committee (MAB) performs the external quality assurance (eQA) of doctoral education and performs the initial accreditation of doctoral schools. As no doctoral school can be established without positive evaluation MAB checks whether the Higher Education Act and government decree requirements on doctoral education are met and the initial accreditation uses ESG-derived criteria piloted in 2019 and introduced in 2020. MAB performs the ESG-based accreditation for existing doctoral schools as well in five years cycle at the request of the relevant higher education institution. The accreditation status of the doctoral school as well as the members, supervisors, enrolled PhD and DLA candidates, finished and expected dates of absolutory exam, defence date and dissertations defended or announced for defence are registered in the publicly available database of the National Doctoral Council. MAB also provides opinions on adding a new branch of science to a doctoral school.²²
- 10. The accreditation results of doctoral schools are publicly available in the EQAR's (DEQAR) database under MAB, and registered by the Hungarian Education Authority, the licencing body of higher education institutions and their activities. Approved doctoral schools are officially registered by the Education Authority. Doctoral schools are also required to notify changes in their registered information to the Authority, including notification of awards made.

EXAMPLES OF POLICIES IN INDIVIDUAL HEIS

The specific measures to be applied when admitting, supervising and assessing candidates for doctoral degree programmes are left up to each individual higher education institution, once the national regulations are respected. Since the national legislative framework provides detailed guidance and criteria, many institutions base their policies directly on the criteria contained in the act and decrees. As an illustrative and typical example, the University of Public Service²³ develops regulations for each aspect of its offer by first quoting the relative legislative provisions and then providing a more detailed description of the criteria to be applied in each case.

²² Accreditation of Doctoral Schools - MAB

²³ <u>Requirements for doctoral education and habilitation - University of Public Service</u>

5. Doctoral Education in Poland

In Poland, doctoral education regulations are set through the detailed provisions laid down in the 2018 Law on Higher Education and Science²⁴ and through the criteria determined for evaluation of doctoral schools by the Polish Science Evaluation Committee (the *Komisja Ewaluacji Nauki* (KEN)), set by regulation of the Ministry of Education and Science²⁵.

ORGANISATION OF DOCTORAL EDUCATION

- 1. Doctoral education in Poland lasts between 6 and 8 semesters. Like other postgraduate programmes, students should acquire at least 30 ECTS from studies. Doctoral programmes may also include up to 60 teaching hours per year.
- 2. The 2018 Law on Higher Education and Science introduced fundamental changes in the model of doctoral education in Poland, with a transition towards the establishment of doctoral schools as a replacement for doctoral studies. A doctoral school may be run (individually or jointly) by universities, institutes of the Polish Academy of Sciences, research institutes or international institutes in the discipline in which each of them has a scientific category A+, A or B+, including foreign entities authorised to award a doctoral degree in the relevant field.
- 3. Those working on a doctorate have student status and receive a universal doctoral stipend which amounts to 37% of the professor's salary until the month of the mid-term (currently around 800 EUR gross) and then 57% of the professor's salary (currently around 1240 EUR gross).
- 4. Entrants must generally hold a master's degree or an equivalent diploma. Recruitment is carried out through a competition set by the scientific council of the institution.

- 5. Education is based on the educational program and the individual research plan agreed between the doctoral student and the supervisor. A principal supervisor or dissertation reviewer should have *habilitation* or the title of professor, while assistant supervisors should have a doctoral degree. A supervisor or reviewer not meeting these conditions who is employed in a foreign organisation may be engaged if the organisations Senate or scientific committee considers that the person has significant achievements in the scientific field associated with the doctoral student's dissertation.
- 6. Polish doctoral students must undergo a mandatory mid-term evaluation of their progress, organised by the higher education institution. They may not continue if they receive a negative evaluation. Supervisors who have four or more students who received a negative result in the mid-term review in the last five years may not continue to supervise.
- 7. As per the 2018 law, a person applying for the procedure awarding a doctoral degree must have published at least: 1 scientific article in a scientific journal or in peer-reviewed materials of an international conference, 1 scientific monograph by a publishing house or have 1 artistic work of significant importance. They must also have achieved learning outcomes for qualifications at level 8 of

²⁴ 2018 Law on higher education and science (English)

²⁵ Evaluation criteria doctoral studies (English)

8. To assess the doctoral dissertation, three reviewers must be appointed who are not employed by the institution who will award the degree. To defend, the dissertation must receive positive reviews from at least two of the reviewers.

EXTERNAL QUALITY ASSURANCE

- 9. Under the new regulations quality evaluation is done by the KEN, starting in the academic year 2024/2025. Each provider is evaluated at least every six years. Evaluations, in Polish and English, will be carried out by experts with significant scientific or artistic achievements including at least one employed at a foreign university or scientific institution, and one doctoral student appointed from among candidates selected by the Polish Association of Doctoral Candidates.
- 10. The Polish Accreditation Committee (PKA) does not currently play a role in the external evaluation or accreditation of doctoral education.
- 11. There are two sets of criteria assessed by the KEN the evaluation criteria specified in Article 261 of the Act Law on Higher Education and Science, and the detailed criteria specified in the Regulation of the Minister of Education and Science on the Evaluation of the Quality of Education at Doctoral Schools.²⁶ The latter set of criteria assesses the policies and practices in place for defining learning outcomes of doctoral students, the qualifications of supervisory staff, the research environment, the organisation of the mid-term review, recruitment and internationalisation. Criteria for assessing the effectiveness of doctoral education are also defined, including timeliness of completion, scientific outputs, perceptions of doctoral students and mechanisms to monitor and use information from career outcomes.

EXAMPLES OF POLICIES IN INDIVIDUAL HEIS

As the Polish Act is very comprehensive in laying out procedures, many institutions simply follow the provisions of the Act. However, institutions are free to add additional provisions over and above the mandated regulations. For example, with respect to supervisor qualifications:

- 12. In the Warsaw University of Technology (WUT), a supervisor can supervise no more than 8 PhD students from WUT Doctoral School at a time, including no more than 5 with a subsidy as a source of scholarship, while the function of an assistant supervisor may be performed over no more than 2 PhD students from WUT Doctoral School. At least one of the supervisors must be employed at the Warsaw University of Technology at the time of appointment of the student²⁷.
- 13. In the University of Gdansk, as well as abiding by the provisions of the 2018 Act, supervisors must also be assigned having regard for their scientific activity, including the convergence of the research topic with the dissertation topic proposed by the doctoral student and their candidate's ability to provide the doctoral student with proper scientific care.²⁸

²⁷ WUT Doctoral School Regulations

²⁸ <u>University of Gdansk Doctoral School regulations</u>

6. Doctoral Education in Portugal

In Portugal, doctoral regulations are set according to the National Education Act (46/86) and the provisions of Decree-Law no. 65/2018 on higher education study programmes and Decree Law nr. 115/2013 on criteria for award of degrees and diplomas ²⁹.

ORGANISATION OF DOCTORAL EDUCATION

- Doctoral education in Portugal can be provided both in universities and (following a 2023 update to the legal framework) polytechnics who meet certain conditions. The right to provide doctoral programmes depends on receiving a positive accreditation decision by A3ES and an adequate assessment of research activity. The duration of the study cycle or the corresponding ECTS credits are not legally defined, but the usual practice is a duration of 6 to 8 semesters or 180 to 240 ECTS credits.
- 2. Doctoral candidates have student status and may apply for state-provided scholarships, including from the Portuguese Foundation for Science and Technology (FCT), a special regime public institute under the supervision and supervision of the Ministry of Education, Science and Innovation.
- 3. The research carried out as part of doctoral studies can take place in any environment of intensive production of knowledge, national or international, including higher education institutions and public and private research providers.
- 4. Candidates must generally hold a master's degree. However, individual institutions may accept students who only hold a bachelor's degree or with other background if they have a distinctive CV that demonstrates capability for a third cycle degree program.³⁰

- 5. Rules regarding the thesis defence and supervision can be autonomously decided by individual institutions. However, there are some regulations. It is mandated that the preparation of the dissertation or project work be supervised by a doctorate holder or a field specialist recognised by the scientific body of the higher education institution. Additional guidance may be provided on a co-supervision basis either by national or foreign supervisors.³¹ Doctoral programme coordinators are also required to hold a doctoral degree and to be specialised in the field of knowledge in which the programme is offered.
- 6. To be awarded a doctoral degree, candidates must produce either an original thesis, or a compilation of relevant research (with an articulation of how it contributes to the development of original knowledge in the field), subjected to a public defence, or else (for an arts doctorate) an art piece or compilation of arts pieces. It is also possible to acquire credits for completion curricular units geared towards research training, depending on the individual institution. Students must also demonstrate research skills, competencies expected to perform effectively in the field of study and important transversal skills (e.g. communicating ideas effectively).
- 7. The thesis or work produced shall be subject to appraisal and public discussion by a jury appointed by the legally and statutorily competent body of the institution. The jury is composed of the head of the institution (or their appointee), and at least four other members each holding a doctorate, one of whom

²⁹ Portuguese Higher Education System, National Education Act (46/86)

³⁰ Decree Law 74/2006, Higher Education Degrees and Diplomas, amended 107/2008, article 30

³¹ Decree Law 2018

is the supervisor. At least two members of the jury must either be professors or PhD holders in the scientific area of the thesis, from other national or foreign higher education institutions. The jury may also contain members with recognised competence in the relevant scientific area.

EXTERNAL QUALITY ASSURANCE

- 8. The entry into operation of a new doctoral study programme requires prior accreditation by the Agency of Assessment and Accreditation of Higher Education (A3ES), according to the Legal Framework for the Assessment of Higher Education (38/2007), as well as the Normative Framework of the A3ES. Successful accreditation of a study programme leading to a doctoral degree requires the provider to have adequate resources of its own to carry our research, that the provider's teaching staff is made up mostly of holders of a doctoral degree and that the provider has an accumulated research experience subjected to evaluation in the relevant area of the doctoral degree.³²
- 9. Doctoral programmes (specifically, 75% of the staff involved with them) are also required to be affiliated with a research unit that should also have achieved at least a classification of "Very Good" in the field of research in which the doctoral programme is offered, according to the latest evaluation of the research unit by the Portuguese FCT, which is responsible for assessing research performance of public research providers (including higher education institutions).

EXAMPLES OF POLICIES IN INDIVIDUAL HEIS

As doctoral education tends to be organised at individual programme level rather than through doctoral schools, regulations for doctoral study are often not established at institution level, but at faculty or programme level. However, there are some examples of common criteria established across multiple programmes.

- 10. The International Doctorate Network in Particle Physics, Astrophysics and Cosmology (IDPASC) Portugal, has criteria set out for the supervision of PhD student, which clarify the expectations of supervisors and their qualification requirements. Supervisors must have at least completed at least 3 additional years of research after their PhD, a strong publication record in the field of research of the thesis, and previous supervision of at least one MSc or PhD thesis. Supervisors without any previous MSc or PhD supervision experience are accepted only in co-supervision.³³
- 11. The University of Porto has established General Regulations for Third Study Cycles, although each programme also can implement its own additional regulations. Under the general regulations, doctoral thesis must be carried out under the supervision of a researcher with a doctoral degree in the scientific area(s) of the cycle of studies who is affiliated with the University of Porto or, if approved by the scientific committee, another higher education institution. In the latter case, a professor from the University of Porto must still be included on the supervision team. The subject of the thesis is proposed as soon as possible by the supervisor, in close articulation with the student. The composition of the jury follows the national regulations exactly³⁴.

³² Normative framework of the A3ES, regulation 392/2013

³³ IDPASC-Portugal Criteria for Supervision of PhD Students

³⁴ <u>University of Porto doctoral study regulations</u>

7. Doctoral Education in Ireland

National standards, regulations and principles for doctoral education in Ireland are set through various published specifications. These include descriptors of the doctoral level qualification in the Irish National Qualifications Framework (NFQ)³⁵, Statutory QA Guidelines for providers of Research Degree Programmes (master's and doctoral level) established by Quality and Qualifications Ireland (QQI)³⁶, Ireland's external national QA agency, and an associated collaboratively developed framework of good practice for research degrees³⁷, which establishes benchmark statements for different aspects of research degree programmes. Informed by these publications, a National Framework for Doctoral Education³⁸ jointly published by QQI and Ireland's Higher Education Authority (HEA), has also been established in consultation with and endorsed by the higher education sector.

ORGANISATION OF DOCTORAL EDUCATION

- 1. In general, doctoral programmes in Ireland take 3-4 years to complete. ECTS are often defined only for the taught elements of programmes and there is no nationally set requirement for the number of ECTS that graduate students must complete.
- 2. Postgraduate researchers have student status and full-time doctoral students are typically eligible for a tax-free state stipend, with possibilities to earn additional income through teaching and research assistant activities.
- 3. Doctoral education has largely transitioned towards structured degrees, often coordinated through dedicated graduate schools. All public universities and technological universities have been granted autonomous powers to design, develop and award qualifications at the doctoral degree level, as part of their statutory degree awarding powers. Doctoral education generally leads to the award of PhD, although professional doctorates are also available.
- 4. Entry to a programme leading to a doctoral degree is typically allowed for holders of honours bachelor's degrees or master's degrees, with institutions autonomously setting criteria for entry to individual programmes or positions. It is common for Irish candidates to first enrol as a master's student and then subsequently transfer to the doctoral programme once sufficient progress is made.

REQUIREMENTS FOR SUPERVISION, PROGRESS ASSESSMENT AND DEFENCE

5. Institutions may largely set criteria for supervision of research students. However the principles laid out in the statutory guidelines and the associated framework for research degrees provided to the sector by QQI serve as a basis for the QQIs regulatory activities. The guidelines specify that each doctoral candidate must have a supervisor(s) who is a qualified, active researcher in a related field, as well as capacities and skills needed for supervision. Measures should also be in place to provide structured training for supervisors. Individual development plans are required to be put in place for each research student, and generic and field-specific skills training is expected to be provided for each student. Programmes are expected to have milestones or review stages built in at identified points during the programme.

³⁶QQI Statutory Guidelines

³⁵ Irish NFQ for doctoral degrees

³⁷ Framework of Good Practice for Research Degree Programmes

³⁸ National Framework for Doctoral Education

- 6. The National Framework for Qualifications (NFQ) specifies the broad knowledge and skills that are expected to be demonstrated to achieve the doctoral degree qualification. The Qualifications and Quality Assurance (amendment) Act 2019 clarifies that higher education institutions, as designated awarding bodies, are expected to include their qualifications within the NFQ and to ensure that their awards standards (the knowledge, skill, or competence to be acquired in the programme) for each programme are consistent with relevant NFQ descriptors³⁹.
- 7. Assessment modalities within institutions must clarify the expected output of the research student's work, generally a thesis but also may alternatively be a collection of research papers or a practice-based output. Assessment for doctoral degrees always includes a viva voce. Institutions may define their own procedures for appointing examination/conferral boards but all of the procedures must be clearly established and notified in advance.

- 8. HEIs are primarily responsible for developing their own methods for quality assurance of education and research (including research degree programmes), but QQI is responsible for ensuring that the methods and practices they develop are appropriate. QQI is legally required to issue guidelines to institutions on expectations relating to various aspects of quality of different types of education and training within their scope. These guidelines are used as the basis for assessing and approving internal QA guidelines and approving them to deliver programmes leading to certain awards (their 'scope of provision'). Reviews of institution's internal QA mechanisms are carried out by QQI on a 7 year cycle and assess HEIs methods and practices for assuring the quality of both education and research.
- 9. There is no separate research assessment procedure in place for Irish HEIs all infrastructure, procedures and practices are assessed in the framework of the QQI's activities.

EXAMPLES OF POLICIES IN INDIVIDUAL HEIS

- 10. In University College Dublin, every doctoral student has a principal supervisor (and potentially a cosupervisor) and a Research Studies Panel (RSP)⁴⁰ appointed early in the first year of study, which includes the supervisor(s) plus 2-4 additional advisors. Advisors may be from outside academia. The RSP should meet at least twice in the first year and at least once a year thereafter. The RSP monitors progress of students against their agreed research plan and monitors the quality and equity of supervision.
- 11. In Atlantic Technological University, research degree students must be appointed a principal supervisor and an assisting and complementing co-supervisor. The principal supervisor must be "research-active" and have a PhD degree. The supervision team can include external supervisors drawn from other universities, industry, professions, the public sector etc. If a principal supervisor had not yet supervised a doctoral student to completion, a mentoring supervisor is appointed to support the principal supervisor. The mentoring supervisor must have supervised a doctoral student to completion, have disciplinary expertise and a PhD. A Progress Review Panel reviews progress of doctoral students and decides on outcomes. It comprises the head of school in the related discipline, the vice president for academic affairs, a senior research manager with responsibility for researcher development and a research-active academic staff member.⁴¹

³⁹Joint sectoral protocol - NFQ alignment

⁴⁰ Research supervision policy UCD

⁴¹ ATU research degree policy

8. Doctoral Education in Finland

Doctoral education has few specific regulations in Finland and institutions are given wide autonomy. Minimal standards are specified in the Government Decree on University Degrees⁴². However, there has recently been an extensive collaborate proposal from the Finnish Council of Rectors (UNIFI), based on analysis and deliberations of a Working Group it set up, to harmonise and clarify the requirements for doctoral study across the system⁴³.

ORGANISATION OF DOCTORAL EDUCATION

- There is no current target completion time defined in Finnish legislation that doctoral students can take to complete their degree, although the recent proposal by UNIFI aims to amend the Universities Act to include such a limit. The typical theoretical duration is four years full-time, or 240 ECTS, which can be divided in different ways between studies and research. Most Finnish universities have organised their doctoral offerings into structured graduate schools which encompass multiple doctoral programs.
- 2. Doctoral candidates are formally defined as students. However, a new pilot programme for doctoral education, that commenced in 2024, supports candidates to be offered a three-year full-time employment contract, which allows them to concentrate on dissertation work full-time.
- 3. Doctoral education in Finland offered exclusively by research universities (yliopistot). Finnish doctoral degrees include the Licentiate (Lic.Sc./Lic.Phil.) an intermediate research degree and the Doctoral degree (Ph.D. or equivalent professional degrees). In the Finnish Universities Act and the Finnish National Framework for Qualifications (FiNQF) "scientific and artistic postgraduate degrees" are defined to include both the Licentiate and PhD and are considered at the same level in the FiNQF (Level 8).
- 4. Entrants to doctoral programmes must have a master's degree or equivalent, and universities can make decisions autonomously about admission processes.

- 5. Finnish universities have full autonomy in organising the supervision of doctoral students, and students may have one or multiple supervisors, but all are entitled to supervision in their research project as well as in their coursework. Two or more supervisors is the expected norm, with at least one as a full professor. However, there are no firm requirements.
- 6. To be awarded a doctoral degree, the government decree states only that a candidate must complete further education studies, demonstrate independent and critical thinking in their field of research; and write and publicly defend a dissertation (or successfully other prescribed tests by the university, in the case of arts education). The dissertation can also be made up of a series of scientific publications.
- There is very little standardisation or systematisation of the assessment of candidates and examination process for the doctoral dissertations – it tends to vary by discipline and has been characterised by UNIFI as an overly long and complex process, compared to what has become common practice in other European countries.

⁴² Government decree on university degrees

⁴³UNIFI proposals

- 8. Finnish law does not require individual doctoral programmes or schools to be accredited or evaluated separately; instead, the institutional audits conducted on a 6 year cycle by the Finnish quality assurance agency (FINEEC⁴⁴) covers all levels of higher education programmes, as well as research and engagement activity, in a holistic approach. FINEEC may also conduct thematic evaluations focused on research and innovation topics.
- 9. FINEEC's audits and thematic evaluations are enhancement-oriented and the results are provided to universities for advisory purposes only. The quality system is the subject of the audit, rather than the quality of education and research itself.
- 10. There are no specific criteria laid out for doctoral education by FINEEC, but doctoral education is considered in both institution-level and thematic reviews.

EXAMPLES OF POLICIES IN INDIVIDUAL HEIS

- 11. At the University of Helsinki⁴⁵, each doctoral researcher must have at least one supervisor to assist them and the university states that doctoral researchers have a right to high-quality expert supervision. All doctoral researchers complete a supervision plan with their supervisors at the onset of their studies and use a web-based tool (Thessa) to update and monitor their plans throughout their study period. Each researcher is also assigned a coordinating academic (normally a professor in the relevant faculty) who is responsible for ensuring the continuation of supervision and helping to orient the doctoral student to the regulations governing doctoral education. Each doctoral student is also assigned to a monitoring group (also called a thesis committee), which must include at least one member with qualifications at docent level, and which provides feedback on progress and supports on-time completion.
- 12. Aalto University publishes doctoral degree regulations at university level, with definitions and requirements for everyone involved in doctoral study programmes. A supervising professor is assigned to each doctoral student, who is generally expected to be a tenure-track professor in the school. A co-supervisor may also be appointed from Aalto or another Finnish or foreign university. A thesis advisor is also appointed, who is an expert in the students' field of research (and may also be the supervising professor). Study modules of between 30 and 60 credits must also be completed. Notably, following the amendment of degree regulations in 2024, students who commenced study under the previous regulations may avail of transitional provisions, whereby they may apply to transfer to the new model by submitting an updated doctoral study plan⁴⁶.

⁴⁴ FINEEC Higher Education Evaluations

⁴⁵ University of Helsinki guidance doctoral education

⁴⁶ <u>Aalto University doctoral study regulations</u>