



Universitat Politècnica de Catalunya



Universitat de les Illes Balears

Academic Regulations for the Interuniversity Doctoral Program in Electronic Engineering in the Framework of the Royal Decree RD 99/2011

Preface

This internal Academic Regulation specifies and complements the regulatory framework for the Electronic Engineering Interuniversity Doctoral Program studies, jointly taught by the Electronic Engineering Department of the Universitat Politècnica de Catalunya (UPC) and the Physics Department of the Universitat de les Illes Balears (UIB), following the agreement signed between both universities in 2012.

This Regulation and the general academic management of the program is carried out by the *Comissió Acadèmica del Programa de Doctorat (CAPD)* at UPC, being UPC the coordinating university of the joint doctoral program.

The objective of this internal Academic Regulation is to provide doctoral candidates enrolled in the Program with clear progress itineraries and understanding of the evaluation criteria during the different stages of their PhD, from admission to the doctoral thesis defense, which lead to the achievement of the competences provided by the doctoral studies, according to Spanish legislation (RD 99/2011 and RD 1027/2011). This document complements and particularizes the information of the respective universities' general academic regulations.

This internal Academic Regulation for the Doctorate in Electronic Engineering comes into effect at the beginning of the 2018/2019 academic year, and replaces the previous regulation approved by the CAPD on 10/06/2013.

I. Management the Doctoral Program in Electronic Engineering

I.1 Language

The regular communication language between the Program management and the doctorands will be English.

I.2 Coordination between UPC and UIB

Doctorands can choose at the beginning of their studies between two admission and enrollment sites of the same Doctoral Program: UPC or UIB. Each site will conduct their own admission, enrollment, annual evaluation and thesis presentation procedures following the criteria specified in this document, Sections II, III, IV and V.

I.3 Academic Commissions

There are two academic commissions: one at UPC and one at UIB. Each commission includes at least one member of the other university as a member. Each commission ensures that the academic criteria are followed equally at each institution, and acts as the interface with each university's Doctoral School.

The Academic Commission at UPC, as the coordinating university, shall receive all the necessary information regarding doctorands enrolled at UIB. This information will be part of the Annual Report of the doctoral program.

II. Admission to the Doctoral Program in Electronic Engineering

Each Academic Commission receives admission applications and decides based on the following requirements and procedure:

II.1 Requirements

Candidates to be admitted to the Doctorate Program in Electronic Engineering must fulfill the following requirements:

1. Hold university degrees, in the area of engineering or sciences, which allow access to doctorate studies under the current legislation, according to one of the possibilities listed in the [UPC Access Requirements for doctoral studies](#)¹.
2. It is generally required to have taken at least 60 ECTS at master level of courses related to Electronic Engineering. The Commission may decide to grant admission assigning up to 30 ECTS of compulsory complementary courses in cases where the previous condition is not fulfilled.
3. Ability to communicate fluently, in writing and orally, using English language, proven either through personal interview, or by means of official academic certificates.
4. Have contacted a Professor of the Program (see Section III.1 below) who evaluates positively the skills and motivation of the candidate, and who accepts to supervise a PhD Thesis in one of the research areas of the Program.

II.2 Admission procedure

Admission to the program must be applied online, either through UPC or UIB.

The candidate must upload copies of the supporting documentation at the time the application for admission is submitted.

If the candidate fulfills the requirements, the respective Commission will examine the documentation and grant admission provided there are enough open positions in the PhD program. Also, the Commission may decide, depending on the previous degree of the candidate, whether the doctoral candidate requires completing specific bridging courses.

If admitted, the candidate must complete the enrolment process at the university of application (either UPC or UIB) and provide original documents of all the supporting documentation.

If the original documents are not available at the time of first enrolment, the candidate must sign and submit the form "Commitment to submit documents" as provided by the program administration. Candidates will not be permitted to proceed to the thesis deposit until they have submitted all of the supporting documentation stated in the Academic regulations for doctoral studies.

¹ <https://doctorat.upc.edu/en/new-students/access-requeriments>

III. Appointment, role and characteristics of the tutor and supervisor of the doctoral thesis

III.1 Professors in the Doctoral Program that may act as Tutor or Thesis Supervisor

The Program maintains in its website the [updated list of professors](#)² of the Doctoral Program who may act as tutor and/or thesis supervisor. This list is composed of teaching and research staff with tenured positions, full-time dedication and holding a PhD, belonging to either the Electronic Engineering Department in UPC or the Physics Department in UIB.

At least one of the following requirements must be fulfilled to be appointed as thesis supervisor:

- Having supervised a doctoral thesis defended in the last 5 years.
- Having a favorable research evaluation by the CNEAI (*Comisión Nacional Evaluadora de la Actividad Investigadora*) or another equivalent body obtained in the last 7 years.
- Serving, or having served during the last five years, as a principal investigator in a research project that was funded by some external public institution, in a competitive call.
- Other doctors of the Departments that manage the Doctoral Program, and who do not belong to the list of regular professors, can act as co-supervisors together with another co-supervisor that does belong to the list, sharing the same competences.

Joining the list of regular professors of the Doctoral Program shall be requested by the applicant and approved by the respective Academic Commission (UPC or UIB). Once approved, the list of regular professors will be updated in the websites that contain information about the Program, and in the different databases related to the doctorate academic management.

III.2 The tutor

All new doctoral candidates to the Doctoral Program must have a tutor, who is formally appointed by the respective Academic Commission at the admission procedure. The candidate must contact a possible tutor at the time of admission application.

The tutor is responsible to supervise that the training and research activity suits the principles of the Program, guides the doctoral candidate, and acts as an academic link to the Academic Commission and the University until a thesis supervisor is assigned, and is also the person who validates the registrations in the Program.

In duly justified cases, the Academic Commission may, at any time during the course, assign a new tutor at the doctoral candidate's request.

III.3 The thesis supervisor

The Academic Commission shall formally appoint a thesis supervisor once the doctoral candidate has registered for the first time and always within six months after the first registration. Normally, the appointed supervisor will be the tutor appointed in the admission process unless agreed otherwise.

² <https://electronicengineering.phd.upc.edu/en/research/professors>

III.4 Doctoral candidate-supervisor agreement

Once the doctoral candidate has been assigned a thesis supervisor, a commitment agreement must be signed, as explained in the [UPC Academic Regulations document](#).³

³ https://doctorat.upc.edu/en/academic-management/regulation/normativa-academica-doctorat_CG2018-01-21_eng.pdf, Chapter 7

IV. Progress and evaluation in the Doctoral Program

IV.1. Research Plan

Before completing the first year of the doctorate starting with the date of the first enrolment, doctoral candidates must develop, enroll and defend a Research Plan, preferably written in English, and approved by the thesis supervisor.

Due to organizational reasons, there are only two periods when the Research Plan may be presented: June and January. For those doctorands in which the first enrolment is between October and January, it is compulsory to present the Research Plan in the next June period. Failure to do that will result in a Non-satisfactory annual tutorship evaluation (see section IV.2 below). For those registering for the first time after January, they must present the Research Plan in the January period of the following academic year.

The Research Plan document must contain the following sections:

- Identification of the doctorand and of the thesis supervisor.
- Title of the thesis proposal.
- Summary of the proposal.
- Critical state of the art on the subject.
- Thesis objectives.
- Methodology and resources needed.
- Description of tasks to achieve the thesis objectives.
- Workplan schedule with estimated deadlines.
- Bibliography.
- Related publications by the candidate, if applicable.

The Research Plan will be examined by a committee composed of three members holding a PhD degree appointed by the Academic Commission.

This committee shall issue a report declaring the plan either satisfactory or unsatisfactory. A satisfactory research plan is an essential requirement for continuing in the doctoral program. If the research plan is deemed unsatisfactory, the doctoral candidate shall prepare and submit a new plan in the next presentation period, which shall be evaluated by the Academic Commission. If the research plan is deemed unsatisfactory in two consecutive evaluations, the doctoral candidate shall be permanently dismissed from the Program.

This Research Plan may be improved along the duration of the PhD program to fulfill the requirements of the evaluation committee, suggestions made by the Academic Commission in the annual tutorship evaluation, suggestions made by the thesis supervisor, or at the initiative of the doctoral candidate.

IV.2. Annual Tutorship Evaluation

The corresponding Academic Commission will make an annual evaluation of the doctoral candidates in the research period based on a progress report written by the supervisor, the progress level of the doctoral candidate relative to the Research Plan, achievement of research-specific and transversal competences, and a number of quantitative items described in Annex I.

As a result of this evaluation, the Academic Commission will issue a report with the overall qualification Satisfactory or Non-satisfactory, together with the reasons for the qualification, and will open a period to review the qualifications, and amend the documents in the Doctoral Candidate Activity Report.

Receiving a non-satisfactory evaluation for two consecutive years implies the dismissal of the PhD program.

IV.3. Doctoral candidate Activity Report

It is the doctoral candidate's responsibility to keep up to date the information contained in the Doctoral Candidate Activity Report, by using the instruments provided by each University. The corresponding Academic Commission will check annually the information contained in this Report to complete the annual tutorship evaluation.

IV.4. Compulsory Annual Enrolment

Doctoral candidates admitted to the Program must enroll for annual tutorship, in the administrative office of the Program.

Doctoral candidates who have not registered for annual tutorship and who have not been granted a temporary interruption of the doctorate will receive a non-satisfactory evaluation of the annual tutorship.

IV.5. Change of thesis topic

If the doctoral candidate decides to change his/her thesis topic, he/she must submit a new Research Plan.

IV.6 Change of the thesis supervisor

The thesis supervisor or the doctoral candidate may request that a thesis supervisor be changed at any time prior to the thesis deposit. The person requesting the change must submit a written statement explaining his/her reasons, and the corresponding Academic Commission is responsible to authorize the change.

To make the change of thesis supervisor official, a new doctoral candidate-supervisor agreement must be signed by the doctoral candidate and the new thesis supervisor.

IV.7. Change of dedication regime

The doctorand may choose at the time of registration among two regimes of dedication: Full Time or Partial Time. The maximum duration of the thesis is three years for Full Time doctorands, and five years for Partial Time students. Extensions to the durations may be granted according to the University regulations.

A doctorand may request and the Academic Commission may approve the change of dedication regime only once during the duration of the doctorate. The deadline for the thesis presentation will be updated according to the following cases:

- In case of a change from Full to Partial time, the thesis duration will be 5 years from the date of the first enrolment.
- In case of a change from Partial to Full time, the Academic Commission will assess the equivalent time spent in Partial time and inform the applicant of the new deadline.

A change of dedication regime may require the application for an extension of studies.

V. Deposit, evaluation committee, defense and assessment of the doctoral thesis

V.1. Evaluation of the doctoral thesis before the deposit

It is the responsibility of the corresponding Academic Commission to validate the quality of the thesis before it is deposited, by checking quality indicators internationally accepted in the area of the thesis and of the Program. These quality indicators are detailed in Annex II. The doctoral candidate will provide the Academic Commission the necessary information to validate these indicators.

When the Academic Commission cannot check the existence of these quality indicators, or when it is considered necessary to validate the quality of the thesis, the thesis will be sent for evaluation to two external reviewers appointed by the Academic Commission, who must be doctors with notable research experience in the area of the thesis, with the order to write a report about the suitability of the work as a doctoral thesis. This report must be delivered within one month after receiving the thesis. The deposit shall not be authorized until the external reports are received.

V.2. Proposal of the doctoral thesis evaluation committee

It is left on the supervisor's decision whether the committee must consist of three or five main members. In both cases the appointment procedures must respect the University regulations. Given the Interuniversity characteristic of this Program, the majority of main members must be external to both the UPC and the UIB. As for the committee members internal to the UPC or UIB, they must have demonstrated research experience⁴.

The director of the doctoral thesis will provide the corresponding Academic Commission a prioritized proposal for the evaluation committee, and for every candidate of the committee, a brief CV⁵ and the acceptance of the candidate to be part of the committee, all in standard forms. He/she will also provide, to the corresponding administrative unit, detail of the means to finance the expenses generated by the committee. In case it is proposed that some member of the committee follows the defense session remotely by using videoconference, it is necessary that this is specified at the moment of the proposal, and the whole procedure should meet the specific regulations emitted by the Doctoral School where the candidate is registered.

If any member of the evaluation committee is co-author of publications arising from the thesis, the thesis director must provide the Academic Commission a justification that his/her participation in the overall work of the thesis to be evaluated was marginal, and the Academic Commission must authorize his/her presence in the committee. In the case of a thesis presented as a compendium of publications (Article-based thesis), the presence of co-authors in the examination committee is not allowed.

V.3 Article-based thesis

The corresponding Academic Commission must authorize the submission of an article-based thesis based on a [specific regulation](#)⁶ (document in Catalan only). The candidate

⁴ Fulfill at least one of the conditions detailed in Section III.1 of this document.

⁵ Only for members external to both UPC and UIB, and in electronic format (PDF).

⁶ https://doctorat.upc.edu/ca/gestio-academica/normativa/arxius-compendis/normativa_td_compendi_pd-enginyeria-electronica_cp_29-11-2016.pdf

must submit an application form with a written justification of the compliance of the requirements for this kind of theses.

V.4. Defense of thesis with associated patent processes and/or confidentiality agreements

When a thesis involves a confidentiality agreement with a company or its content has the potential to be patented, the candidate must apply the corresponding Academic Commission to benefit from the procedure detailed in the corresponding university Academic Regulations for Doctoral Studies.

Annex I: Assessment criteria during the research period (annual tutorship evaluation).

The assessment of the annual tutorship evaluation will be based on the following items:

1. Bridging courses, if any, assigned in the moment of admission to the Program. These must be completed within one year after the first registration in the Program. Failing to meet this deadline is a reason for a non-satisfactory evaluation of the annual tutorship. Completing these bridging courses is justified by passing the evaluations established in these courses.
2. Doctoral candidate progress report, written by the supervisor or tutor⁷. This report will contain a satisfactory or non-satisfactory assessment, which shall be justified according to the extent to the doctoral candidate progress during that year. A non-satisfactory evaluation in this report is enough to produce a non-satisfactory qualification in the annual tutorship evaluation.
3. Justification of the progress of the thesis according to work plan envisaged in the Research Plan (Thesis Proposal), and Research Plan update, written by the doctoral candidate.
 - For doctoral candidates who have not yet submitted the Research Plan, this can be a short report explaining what they have done since they started the doctorate or research period.
 - For doctoral candidates who are evaluated shortly after having defended the Research Plan, they only need to present the initial work plan with tasks enumeration and expected calendar, which is part of the Research Plan.
 - If the Research Plan has been defended during the last year, it is also required to justify that the observations issued by the Evaluation Committee of the Thesis Proposal have been accounted for.
 - For doctoral candidates who are evaluated for the second time, or subsequent evaluations, doctoral candidates must present a justificatory document of their thesis progress during that academic year, in reference to that scheduled in the workplan of the Research Plan or that of the last annual evaluation. According to their progress, the doctoral candidate must either confirm or modify the workplan and expected calendar. Note that a simple copy & paste of the last workplan is not admitted: a justification of the progress during the last year is required.
4. Justification of partial results derived from the thesis: a first publication during the first two years of the thesis/research period (four years if part-time schedule). Lack of this item is enough to produce a non-satisfactory qualification in the annual tutorship evaluation⁸. Items admitted under this concept are:
 - Article in an indexed journal. The article must derive from the research work developed within the doctorate, must be either published or accepted for publication, and the doctoral candidate must be the first author.

⁷ Must be entered in Doctoral candidate Activity Report.

⁸ Except in the case of doctoral thesis that imply a confidentiality agreement with a company, or thesis in industrial doctorates. In these cases, it is required to provide the justificatory documents.

- Contribution to congress or workshop proceedings, peer-reviewed, either oral presentation or poster. The contribution must derive from the research work developed within the doctorate, must be either published or accepted for publication, and the doctoral candidate must be the first author.
 - Patent application, national or international. The patent must derive from the research work developed within the doctorate, and the doctoral candidate must be the first inventor.
5. Justification for attending research-specific training activities. A minimum of 2 items totaling at least 10 hours is required before deposit:
- Attendance to research-related courses and seminars organized by the PhD Program in Electronic Engineering, other units at UPC or UIB, or other organizations outside these Universities, with attendance certificate reporting the number of hours.
 - Attendance to research conferences, with attendance certificate.
 - Participation in internal seminars organized by the research groups, with a brief report issued by the supervisor or tutor of the thesis explaining this participation, reasoning the appropriateness of this activity for doctoral candidate training, and the number of hours spent.
 - Research stay in another national or foreign research center, accredited with a report issued by the responsible of the stay at the hosting institution (stay may be completed or in progress, minimum two weeks, although it is recommended that stays fulfill the requisites to obtain the International PhD Mention).
6. Justification for attending transversal training activities. A minimum of 3 items by the end of the 2nd year of the doctorate (3rd year if part-time schedule) of training activities in cross-disciplinary skills (cross-training), preferably oriented to insertion into labor market. Items admitted under this concept are:
- Transversal training courses and seminars organized by the Doctoral School of UPC, other units of the UPC or UIB, or other organizations outside the University, with attendance certificate reporting the number of hours.
 - Attendance to Doctoral research forums, workshops PhD-Industry, workshops for future doctors, organized by the Program, the UPC or the UIB, or other entities, with attendance report.
 - Developing part of the thesis in a private industry, accredited through an university-company agreement or an industrial doctorate program.

Annex II: Criteria to validate the quality of the thesis before it is deposited, by checking quality indicators.

The following items are considered indicators of sufficient relevance in order to validate the quality of the thesis before it is deposited. At least one of these items must be verified:

- I. At least one article in a journal indexed in JCR⁹ or SJR¹⁰, positioned in the first three quartiles in its category in the year of publication (or last published JCR or SJR). The article must derive from the research work developed within the doctorate, must be either published or accepted for publication, and the candidate must be the first author.
- II. At least two papers in proceedings of notable international congresses, defined as those that fulfill the criteria defined by UPC¹¹, or those that appear in the first three quartiles in its category in the SJR index. The paper must derive from the research work developed within the doctorate, must be either published or accepted for publication, and the candidate must be the first author.
- III. At least one patent, national or international, applied for and accepted after a review procedure (procedure with previous exam, or favorable report of the state of the art). The patent must derive from the research work developed within the doctorate, and the candidate must be the first inventor.

The doctoral candidate will have to provide the corresponding Academic Commission with the information necessary to validate the above listed items.

⁹ <http://admin-apps.webofknowledge.com/JCR/JCR>

¹⁰ <http://www.scimagojr.com/journalrank.php>

¹¹ <https://drac.upc.edu/info/glossari/classificacio-alfabetica/c/congressos-notables-upc>