



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 Department of Electronic Engineering of the Universitat Politècnica de Catalunya (UPC) and the Department of Enginyeria Industrial i Construcció 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 2021/2022 academic year, and replaces the previous regulation approved by the CAPD on 3/10/2018.

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 common criteria specified in this document, Sections II, III, IV and V.

I.3 Academic Commission

The Academic Commission (CAPD) is composed of members from UPC and UIB. On the UPC side it includes the UPC coordinator acting as general coordinator as well as four members representing the four areas of research: Semiconductors, Integrated Circuits and Systems, Power Electronics and Instrumentation. On the UIB side it includes the UIB coordinator plus three other members of the program professorship.

II. Admission to the Doctoral Program in Electronic Engineering

The 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](#).
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 by 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 act as the tutor of the doctorand.

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.

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

III.1 Professors in the Doctoral Program

The Program maintains in its website the [updated list of professors](#) 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 Department of Electronic Engineering in UPC or the Department of Enginyeria Industrial i Construcció in UIB. At least one of the following requirements must be fulfilled to be appointed as a professor in the program:

- 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 5 years, as a principal investigator in a research project that was funded by some external public institution in a competitive call.

Joining the list of regular professors of the Doctoral Program shall be requested by the applicant and approved by the Academic Commission. 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

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 liaison 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.

The tutor must be a professor of the program, as defined in III.1.

All new doctoral candidates to the Doctoral Program must contact a professor of the program before the admission application who agrees to be her/his tutor. The updated list of professors who may act as potential tutors is regularly maintained in the [corresponding program webpage](#). The name of the contacted tutor must be provided as part of the admission application information provided by the candidate.

The Academic Commission formally appoints the provided professor as the tutor after checking her/his agreement as part of the admission procedure, provided that all other conditions for admission are fulfilled. An admission application without specifying a tutor shall be rejected.

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 thesis supervisor is the person who is responsible for the idoneity of academic activities, novelty and academic impact of the thesis. The supervisor must hold a PhD and have a recognized research record. The tutor may act as the thesis supervisor, alone or together with another doctor, both acting as co-supervisors. The tutor guides the doctorand to find a suitable thesis supervisor in case she or he does not act as supervisor.

The supervisor must hold a PhD degree and shall generally be a professor of the program. Doctors external to the program belonging to the university or outside the university may act as co-supervisors together with another co-supervisor who is a member of the program, and sharing the same competences.

Exceptionally and following the tutor recommendation, the Academic Commission may authorize both co-supervisors to be external to the program.

The maximum number of co-supervisors is two, except for Industrial Doctorates, in which one external co-supervisor and up to two co-supervisors which are professors of the program may be appointed.

The Academic Commission shall formally appoint thesis supervisor or co-supervisors once the doctoral candidate has registered for the first time and always within six months after the first registration.

Once the doctoral candidate has been assigned a thesis supervisor, a commitment agreement must be signed.

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 submit a Research Plan, preferably written in English, and approved by the thesis supervisor.

The Research Plan shall be defended before a committee composed of three members holding a PhD degree appointed by the Academic Commission: one member represents the Academic Commission itself, a second member is a professor of the program, and a third member is a doctor external to the program.

The Research Plan presentation must take place no later than the second Annual Assessment (see Section IV.2) that happens after the second yearly enrolment. Research Plan presentations take place in Spring.

In the case the Research Plan is not defended before the established deadline, the doctorand shall be dismissed from the program.

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 evaluating 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 by the committee, the doctoral candidate shall prepare and submit a new plan within the next six months which addresses all the comments of the committee. This new research plan shall be evaluated by the Academic Commission. If the research plan is deemed unsatisfactory in this second evaluation, 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 Assessment

The Academic Commission will make at the end of each academic year an annual evaluation of the doctoral candidates based on a progress report written by the supervisor, the progress level of the doctoral candidate relative to the Research Plan as reflected in the Doctoral Activities Document (DAD), 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 Unsatisfactory, together with the reasons for the qualification, and will open a period to review the qualifications.

Receiving an Unsatisfactory evaluation for two consecutive years implies the dismissal from 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

Internal Regulations for the Doc. Prog. in Electronic Eng. approved by the Academic Commission on 19/07/2021

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 without being granted a temporary interruption of the doctorate shall be dismissed from the program.

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. This new research plan must be validated by the supervisor or co-supervisors and shall be evaluated by the Academic Commission, which shall issue a Satisfactory or Unsatisfactory assessment. After an Unsatisfactory assessment, the doctorand may submit within 6 months a new plan addressing the comments by the Academic Commission. If this new plan is again deemed unsatisfactory by the Academic Commission, the doctorand shall be dismissed from the program.

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.

The thesis deposit cannot take place until six months after the date of the new agreement.

IV.7. Thesis duration and extensions

Doctoral studies have a duration of three years, counting from the date of the first registration to the program (Article 4.2 of UPC doctoral regulation.) In the case of part-time studies, the maximum duration is five years. The end date is the date at which the thesis deposit is accepted by the Doctoral School. All the documentation for the thesis deposit must be submitted to the Program Administration at least 3 weeks before the deadline.

If the thesis deposit cannot be done before the period expires, there is the possibility to ask for an extension that must be evaluated by the Academic Committee. For full-time students, this extension may be granted for one year, and if expired, exceptionally may be granted one additional year. In the case of part-time studies, the first extension is for two years, and the second and last extension is for one year.

The extension application must include a justification of the extension, and a proposal for a work plan in the form of a Gantt diagram, clearly specifying the remaining tasks and expected date of completion. Applications without a detailed work plan shall be rejected.

Failure to deposit the thesis in the assigned time including extensions implies the automatic dismissal of the program. This means that the student cannot submit the thesis in this program, and there has to be a period of two years in case the student

asks for re-admission, in which case it is compulsory to present a new research plan (Article 4.4 of UPC doctoral studies regulation.)

IV.8. 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 shall 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 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 whenever 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 experience.

The supervisor 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 CV and the acceptance of the candidate to be part

of the committee, all in standard forms. The supervisor 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. The candidate must submit an application form with a written justification of the compliance of the requirements for this kind of thesis.

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 to the 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 assessment).

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

1. Bridging courses, if any, assigned at 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 an Unsatisfactory 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 tutor. This report will contain a Satisfactory or Unsatisfactory assessment, which shall be justified according to the doctoral candidate progress during that year. An Unsatisfactory evaluation in this report is enough to produce an Unsatisfactory qualification in the annual tutorship evaluation.
3. 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 dedication). Lack of this item is enough to produce an Unsatisfactory qualification in the annual tutorship evaluation. 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.
 - 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.
4. 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).

5. 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 in the 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.
 - Attend 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 JCR or SJR, 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 UPC, 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.