

# **ETSETB Master's Thesis Regulations**

## **(TFM - Treball Fi de Màster)**

This document is a translation of the original Catalan version of the ETSETB Master's Thesis Regulations.  
The Catalan version is the only legally valid document for the purposes of regulation and enforcement.

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The curricula of master's degrees offered by the Barcelona School of Telecommunications Engineering (ETSETB) stipulate that to be awarded a degree, students must complete a master's thesis in the field of study of the degree, of one of the types defined in the UPC academic regulations. These regulations govern the organisation of master's theses and procedures related to thesis enrolment and assessment.

These regulations apply to all ETSETB master's degrees except those subject to specific regulations. If the official validation report for a master's degree stipulates any points that conflict with these regulations, the validation report shall take precedence.

## **1. Master's theses**

1. A master's thesis is a previously unpublished work consisting of a comprehensive project in the engineering field of the master's degree that synthesises the competencies acquired on the master's programme. Master's theses must be completed individually and overseen by a master's thesis supervisor.
2. Master's theses must be presented and defended before an examination committee.
3. For students, the workload associated with a master's thesis is equivalent to that for the number of ECTS credits specified in the validation report for the corresponding degree (25–30 hours per ECTS credit).
4. As a general rule, master's theses must be completed individually; however, if justified by its scope or complexity, students may work as a team on the same topic [see point 10].

## **2. Methodology for completing a master's thesis**

The following rules apply with respect to the completion and management of master's theses and documents that must be submitted:

1. Professors who are eligible to act as master's thesis supervisors [see point 3] may offer a thesis topic and assign it to one of the students who request it. Students may also propose a thesis topic to a professor who is eligible to act as a master's thesis supervisor. If the professor agrees, they may then start to act as the student's thesis supervisor. In either of these cases, the procedure that apply to the offering of master's theses and the acceptance of students by eligible supervisors must be followed [Procedure 1].
2. To start working on a master's thesis, a student must first complete the corresponding enrolment process [Procedure 2].
3. When a student is close to completing their master's thesis, an examination committee shall be appointed [Procedure 3].

4. For the assessment of a thesis, students must write the master's thesis in the language specified in the validation report for the master's degree. The thesis must include the following points at minimum:
  - A brief description of the work to be carried out, including requirements and specifications. Students should clearly indicate whether the master's thesis builds on previous work done by the supervisor, a previous thesis or any similar work.
  - Work plan: tasks, milestones and Gantt chart.
  - State of the art of the technology used.
  - Report on the project carried out.
  - Results.
  - Cost evaluation (if applicable).
  - Conclusions and future work.

Completed theses must be submitted via the ETSETB intranet for assessment by the examination committee [Procedure 4].

5. If the examination committee accepts the thesis, the next step is its public defence. The student concerned must agree a date for the thesis defence with the examiners, inform the academic secretary of the proposed date and time, and book a classroom [Procedure 5].

### **3. Master's thesis supervisors**

1. To be eligible to act as a master's thesis supervisor, professors must hold a master's degree that is recognised under the new regulations on official university studies (Royal Decree 1393/2007 of 29 October) or a doctoral degree.
2. Master's thesis supervisors must have a contractual relationship with the UPC and be affiliated to the ETSETB. In the case of degrees from multiple schools, the master's thesis can be supervised by professors from any of the schools participating in the degree, and any other UPC teaching staff at the request of the master's academic committee.
3. Generally, there is only one thesis supervisor; however, there may be a maximum of two co-supervisors. If a master's thesis is co-supervised, at least one co-supervisor must meet the conditions specified in points 3.1 and 3.2.
4. If a master's degree is completed at a company, on a mobility placement, or at a school or department where the master's thesis supervisor assigned by the host institution does not meet the requirements specified in point 3.2, there must be a co-supervisor who does meet these requirements. This co-supervisor shall serve

on the examination committee and supervise the student's work to ensure that the master's thesis meets the academic requirements set by the ETSETB.

#### **4. Enrolling for a master's thesis**

1. Before a student can enrol for a master's thesis, the topic must have been offered, and the thesis supervisor must have accepted the student [Procedure 1].
2. When a student enrolls for a master's thesis [Procedure 2], this step must complete their enrolment with respect to all of the ECTS credits for the corresponding degree. In other words, when a student enrolls for a master's thesis, no ECTS credits may be left to enrol for at a later time.
3. The validity of enrolments is subject to applicable UPC academic regulations in effect. Provided that there is no conflict with the academic regulations, if a master's thesis is not defended in the semester in which the student enrolled for it, they must re-enrol for the thesis the following semester and shall be granted an additional period in which to defend their thesis. For this second enrolment, students are not required to pay the fee for the master's thesis credits; only fees for administrative services must be paid (academic record management, learning support, and student insurance, if applicable).
4. Students who do not complete their thesis in the semester they enrolled for or within the additional period granted, the length of which will be stipulated in the UPC academic calendar, shall be awarded a grade of "Not submitted". In such cases, the student must re-enrol and pay all fees for master's thesis credits plus the additional fee for second or subsequent sessions specified in the Government of Catalonia's Decree on Fees.

#### **5. Examination committees**

1. To be eligible to act as an examiner, professors must hold a master's degree that is recognised under the new regulations on official university studies (Royal Decree 1393/2007 of 29 October) or a doctoral degree.
2. Only professors who have a contractual relationship with the UPC and meet one of the following conditions may serve on a master's thesis examination committee:
  - They have taught at the ETSETB in the academic year in which the student concerned enrolls for the master's thesis or in one of the two previous academic years.
  - They are affiliated to the ETSETB.

3. Examination committees shall be composed of a chair, a regular member and a secretary.
4. The secretary shall be the supervisor or one of the co-supervisors of the master's thesis. If the thesis supervisor, or neither of the co-supervisors, does not meet the requirements to serve on an examination committee, the director of studies of the master's programme shall appoint a secretary.
5. The chair and a substitute shall be appointed by the director of studies of the master's programme.
6. The regular member and a substitute shall be appointed by the director of studies of the master's programme from among academic staff who are eligible to serve on a master's thesis examination committee and do not belong to the same department as the chair or the secretary. Professors appointed to an examination committee shall have five working days to resign from the appointment by making a written submission stating their reasons for declining the appointment.
7. On an exceptional basis, a master's thesis supervisor or co-supervisor may request that the director of studies of the master's programme appoint a particular professor as the regular member of an examination committee. In any event, the chair and the regular member must be from different departments.
8. In the case of degrees from multiple schools, the director or co-directors of the TFM may exceptionally request the director of studies of the master's programme to appoint a professor from the UPC, as president of the committee, although she or he does not meet the conditions of point 5.2, if she or he has expertise in the area of the TFM.
9. The student must request the assignation of the examination committee (Evaluation Board) in accordance with [Procedure 3].
10. The academic secretary shall officially notify the student of the composition of the examination committee.

## **6. Public defence of master's theses**

1. When a student, in agreement with their thesis supervisor, deems that they have completed their master's thesis, they must electronically submit it via the ETSETB intranet. Theses shall be validated by the secretary of the examination committee at least one calendar week before the date scheduled for the thesis defence.
2. The examination committee shall have five calendar days, counted from the day on which the secretary validates the thesis, to assess it and decide whether to accept it for oral defence. Any examiner who wishes to receive a printed copy of the master's thesis may ask the student to provide one.

3. If, having reviewed the thesis, any of the examiners consider that the work is not of sufficient quality to be accepted for oral defence, this shall be communicated to the secretary of the examination committee, who shall inform the student, the other examiners and the director of the master's programme. In such cases, the director of studies of the master's programme shall meet with the examiners to decide the most appropriate course of action.
4. When a master's thesis is submitted, or subsequently, the student concerned shall agree a date for the thesis defence with the examiners, inform the academic secretary of the proposed date and time, and book a classroom [Procedure 5] at least five working days before the date of the defence.
5. The academic secretary shall inform the student and examiners of the date, time and place definitively assigned for the thesis defence and provide the secretary of the examination committee with the record of curricular assessment for the master's thesis. The academic secretary shall also make public the date of the master's thesis defence.
6. Master's theses shall be defended individually and publicly before an examination committee. The defence of a thesis shall consist of an oral presentation summarising the content of the thesis, the results obtained, and the methodology used.
7. The public defence of a master's thesis shall be conducted in the language specified in the validation report for the master's degree.
8. Following this presentation, students shall respond to questions from the examiners on the content and development of their thesis.
9. The defence of a master's thesis shall last approximately 45 minutes:
  - 30 minutes for the oral presentation
  - 15 minutes for questions and answers

## **7. Assessment of master's theses**

1. Master's theses shall be assessed by an examination committee appointed for this purpose.
2. If a master's thesis is the result of work done by a team (more than one student working on the same topic), a single examination committee is formed to separately assess each student involved. In such cases, each student must write a thesis and make a public presentation that makes it clear what their individual contribution was.
3. For a master's thesis examination to be valid, all examiners must be present. In the exceptional event that an examiner is absent at the time scheduled for the

- thesis examination, the other examiners, in agreement with the student concerned, may seek a substitute who meets the requirements that apply with respect to the absent member. Otherwise, the examination shall be postponed.
4. Once the assessment of a master's thesis has been completed, the secretary for the examination committee shall complete, via the ETSETB intranet, an official record of assessment results, which must be signed by all of the examiners and submitted to the academic secretary.
  5. The official record of examination results shall contain the following information: number of credits, a numerical grade (to one decimal place), a descriptive grade, and a recommendation to award a distinction for excellence if the examiners deem this appropriate.
  6. To determine the numerical grade, the examiners shall give particular consideration to the scientific and technical quality of the thesis, the clarity of the writing, the oral presentation, answers given to the questions posed by examiners, and any economic feasibility, environmental impact and/or sustainable development studies conducted.
  7. Descriptive grades shall be based on the following scale:
    - Excellent/Distinction: 9.0 to 10.0
    - Good: 7.0 to 8.9
    - Pass: 5.0 to 6.9
    - Fail: 0.0 to 4.9
  8. The examination committee shall indicate on the official record of examination results whether it recommends that the student be awarded a distinction for the thesis. The master's committee responsible for academic tasks shall award distinctions based on these recommendations, without exceeding the maximum number stipulated in the UPC's academic regulations. If the number of distinctions proposed is greater than the number allowed, the master's committee responsible for academic tasks shall determine a procedure for awarding distinctions based on objective criteria.

## **8. Completing a master's thesis on a student mobility and/or double degree programme**

1. When a master's thesis is completed within the framework of a student mobility and/or double degree programme, two co-supervisors shall share responsibility for supervising the thesis: one at the host institution and another at the UPC. The latter must meet the conditions specified in point 3 of these regulations. The UPC

co-supervisor shall be responsible for performing all of the functions assigned to thesis supervisors in these regulations.

2. When a master's thesis is completed while on a mobility placement, the oral defence and examination may be conducted at the host institution when appropriate. The results shall subsequently be recognised by the ETSETB following review by an examination committee appointed for this purpose. The examination committee may maintain the grade awarded by the host institution or award a different one, at its discretion.
3. When a master's thesis is completed on a mobility placement, the directors of the ETSETB reserve the right to require that the defence of the thesis be conducted at the School. This right shall be exercised if the oral defence and corresponding assessment of a thesis was not conducted at the host institution or in other cases when deemed necessary.
4. The thesis submitted for assessment at the ETSETB may be the same one required at the host institution, provided that it meets the requirements specified in point 2.4 of these regulations.

## **9. Completing a master's thesis at a company**

1. A master's thesis may be completed at a company subject to the regulations that apply to external academic placements.
2. In this case, the supervision of the thesis shall be shared between two co-supervisors: one at the company, who must hold a bachelor's or master's degree, and another at the UPC, who must meet the conditions specified in point 3 of these regulations. The UPC co-supervisor shall be responsible for performing all of the functions assigned to thesis supervisors in these regulations.

## **10. Completing a master's thesis as a team**

1. As a general rule, master's theses must be completed individually. However, if justified by its complexity, two students may work as a team on the same thesis topic.
2. In this case, each student shall produce a thesis with a different title than the one produced by the other. Each student must also clearly indicate what work they did on the master's thesis.
3. The same examination committee shall assess each student separately. Each of the students must make a public presentation that clearly reflects their individual contribution.

## **11. Publication of master's theses**

1. The ETSETB shall deposit master's theses in UPCommons, the open-access institutional portal of the UPC's Libraries, Publications and Archives Service, under a Creative Commons (Attribution-NonCommercial-NoDerivs) or similar licence so that they are available for consultation. Student authors shall sign a consent form authorising the publication of their master's thesis in UPCommons.
2. Theses that are confidential shall not be published in UPCommons but shall be deposited on the servers of the UPC's Libraries, Publications and Archives Service. In this case, only bibliographical data and the abstract shall be displayed. Students must sign the "justification of confidentiality" form.
3. If the work must remain confidential only for a certain period of time, when it ceases to be confidential it shall be published under a Creative Commons (Attribution-NonCommercial-NoDerivs) or similar licence.
4. Master's theses that contain verbatim extracts of articles published in journals or conferences to which the author has assigned rights of publication may not be published in UPCommons.

## **12. Confidentiality of master's theses**

1. During the process of depositing a master's thesis via the ETSETB intranet, the student and the thesis supervisor shall electronically sign a confidentiality or non-confidentiality agreement for the thesis [Procedure 4]. The confidentiality or non-confidentiality agreement shall be governed by UPC regulations on intellectual property.
2. Any confidentiality provisions shall apply only to the publication of the master's thesis. Even when such provisions apply, the defence of the master's thesis shall be open to the public.

## **13. Availability of resources**

1. For the completion of master's theses, the ETSETB shall make its measuring instruments, laboratories and computer resources available to students and thesis supervisors, subject to limitations related to teaching activities carried out in the School's facilities. The technical and scientific resources available in the departments to which students and thesis supervisors belong may also be used.

## **14. Cross-disciplinary competencies related to master's theses**

1. The following cross-disciplinary competencies are developed at the ETSETB and can be worked on more intensively by students who are completing a master's thesis:
  - CT1: Entrepreneurship and innovation
  - CT2: Sustainability and social commitment
  - CT4: Effective use of information resources
  - CT5: Foreign language

### **Appendix on compulsory procedures**

The ETSETB has defined and established the following compulsory procedures for the implementation of these regulations.

**Procedure 1 – Procedure for offering a Master's Thesis.**

**Procedure 2 – Procedure to enrol for a Master's Thesis.**

**Procedure 3 – Procedure to assign an Evaluation Board.**

**Procedure 4 – Documents to be uploaded.**

**Procedure 5 – Master's Thesis defence Procedure.**

Details of these procedures are published on the ETSETB website:

<https://telecos.upc.edu/ca/els-serveis/secretaria-oberta/treballs/tfm-treball-de-fi-de-master-masters>