

# **Master in Cybersecurity** **University of Murcia**

## **Master's Thesis Regulations**

The Master's Thesis (TFM) for the Master in Cybersecurity adheres to the TFG/TFM Regulations established for the degrees of the Computer Science Faculty, approved in the Faculty Board meeting held on June 6, 2023. This document contains an adaptation of this regulation due to the online and bilingual nature of the master's program.

## Process for Offering, Requesting, and Assigning a Line/Supervisor for the Master Thesis

**Article 1.** The management and coordination of the process for offering, assigning, preparing, presenting, and defending the Master Theses (TFM) for the degree falls under the responsibility of the Degree Coordinator. For this, he will have the collaboration of the Student Secretariat.

### Schedule

**Article 2.** At the beginning of each academic year, the Vice Dean of Studies will publish the schedule for the process of assigning a line and supervisor for the TFM of the degree.

**2.1.** The schedule will include the following deadlines:

- Lines for each degree offer.
- Publication of the offer to students and their requests for lines.
- Publication of the provisional assignment and the opportunity to appeal.
- Publication of the definitive assignment.

**2.2.** The degree's Academic Committee will validate the process and approve the provisional and definitive assignment of lines to all students enrolled in the TFM.

**2.3.** The process must be concluded before October 20, by this date all enrolled students should know their work line, assigned supervisor, and, if applicable, co-supervisor.

### Lines Offer

**Article 3.** The Degree Coordinator will request TFM line offerings from the degree's professors, indicating the maximum number of students to be supervised per line.

**3.1.** The Academic Committee of the degree will ensure that the offer includes at least 15% more supervision proposals than the number of students enrolled for the first time in the TFM.

### Publication of Line Offerings

**Article 4.** Once this initial phase is concluded, the TFM line offerings will be published through the platform <http://tf.um.es> and the degree's own website.

## Requesting a Line by Students

**Article 5.** Within the established schedule, students enrolled for the first time in the Master Thesis (TFM) course will request the offered lines of work in order of preference.

### Prior Renunciation

**5.1.** Students enrolled for the second or subsequent times may resign the previously assigned line and supervisor and opt for a new line. To do so, before the opening of the line request period for the current academic year, they must submit the application (Annex I) through a basic instance via the University's Electronic Registry, addressed to the Computer Science Faculty.

### Prior Agreement of Supervision

**5.2.** Before the line assignment period ends, students may agree on a new TFM line with a professor from their degree. The supervising professor will register this agreement using the designated application. If the agreement is made after the offer is published, the professor cannot withdraw the proposal from the offered lines, and it will be considered an increase in the number of proposals offered by that professor.

## Line Assignment

**Article 6.** The assignment process will consist of three phases:

- **Phase 1:** The lines and supervisors of students from the previous academic year will be maintained in the new year list unless explicitly resigned by the student.
- **Phase 2:** Next, lines and supervisors will be assigned to students who have made a supervision agreement.
- **Phase 3:** Finally, the application <https://tf.um.es> will automatically assign the offered lines to students, based on the order of preference indicated in their request. If more applicants than proposals for a particular line and supervisor, the assignment will be made considering the student's average grade. The application <https://tf.um.es> will automatically assign a line to those students who have not submitted a request, ensuring that all students enrolled in TFM have an assigned line.

**6.1.** Once the provisional assignment is published, a 5-business-day period for claims will open. These claims must be submitted through a basic instance addressed to the Dean of the Computer Science Faculty via the UMU Electronic Registry or, in person, at the Faculty's Student Secretariat.

**6.2.** After the claim period ends, the Academic Committee of the degree will resolve the claims and approve the definitive assignment of lines and supervisors. The definitive assignment will be published on the platform <http://tf.um.es> before October 20.

**6.3.** Once the definitive assignment is published, each student will contact their assigned supervisor to receive the necessary instructions and guidance for starting and planning the tasks related to their TFM development.

The supervisor is responsible for guiding and supervising the student during the TFM preparation process. Before the presentation and defense of the work, the supervisor will issue the corresponding report (Annex III).

## Enrollment Extension

**Article 7.** Students enrolled in TFM during the January enrollment extension period will be required to follow the AGREEMENT procedure with a supervisor for their TFM. However, if necessary, the Academic Committee of the respective degree will carry out a second phase of offering, selecting, and assigning work lines, which will take place during February, following a process like the one described earlier.

## Resignation or Line Changes

**Article 8.** Any student has the right to change the assigned line, subject to a supervision agreement with another professor. The student will communicate the agreement by submitting the corresponding CHANGE of supervision document (Annex I), duly completed and signed by the incoming and outgoing supervisors, through the UMU Electronic Registry, addressed to the Computer Science Faculty. The outgoing supervisor cannot oppose the change, and their signature will acknowledge that they have been informed.

## Preparation of the TFM

**Article 9.** The TFM consists of a student's individual, original, and autonomous work, whose main objective is to evaluate the knowledge, competencies, and skills acquired during their training in the master's degree.

**Article 10.** The TFM concludes with the preparation of a report, written in English.

**10.1.** When the work has been carried out in collaboration with a company, whether as part of extracurricular internships, a work relationship, or any other form, the student must ensure that they do not breach any confidentiality agreement or violate any intellectual property rights. In such cases, the report must include the company's express authorization, according to the model (Annex V), where the responsible person from the company states their agreement with the presented material. The Computer Science Faculty is exempt from any responsibility arising from the student's non-compliance with this regulation.

**10.2.** The following structure is suggested for the document, although it may be adapted according to the type of work:

Cover and back cover.

Authorization, if applicable, from company/institution

Abstract

Index

1. Introduction

2. State of the Art

3. Objectives and Methodology

4. Description of Design, Work Done, Tests, Results, etc.

5. Conclusions and Future Directions

Bibliography

Appendices, if applicable.

**Article 11.** The report will be submitted on the dates established by the Academic Committee of the degree, through the platform <http://tf.um.es>, in PDF format, with a maximum size according to the platform's capacity. It is recommended that the document does not exceed 50 pages, excluding appendices.

**Article 12.** The design of the cover and back cover of the document is free, but they must include at least the identifying data of the work: title of the TFM, master's degree, the name of the Computer Science Faculty, the evaluation/exam call in which it is presented, the name of the student, and those of the supervisor and co-supervisor (if any).

Some cover and document structure templates will be available on the faculty's website. The use of the scientific editor LaTeX is recommended, although any other editor can be used.

## TFM Evaluation Process

**Article 13.** The Faculty Board, in the annual planning of the exam schedule, will include the deadline by which students must submit their works in each call. Supervisors will have an additional day to submit the corresponding supervisor's report. The provisional publication date of the defense schedule and the period during which the defenses will take place will also be indicated. The Academic Committee may establish its own schedule by communicating it to the Vice Dean of Studies for approval by the Faculty Board when approving the annual schedules.

**Article 14.** In accordance with Article 7.1 of the TFG/TFM Regulations of the University of Murcia, the evaluation of each TFM offered by the Computer Science Faculty will be carried out by an Evaluation Committee, consisting of three faculty members of the degree, among whom neither the supervisor nor the co-supervisor of the TFM can be included. The members of the committee will be the president, member, and secretary. In all cases, there will be a primary and a substitute member. Exceptionally, professors from other faculties may be included if the Academic Committee of the degree deems it appropriate.

**14.1.** The secretary and president, both primary and substitute, of each committee will be appointed from among the full-time faculty members of the degree.

**14.2.** The member, both primary and substitute, of each committee will be appointed from among the faculty of the degree, including doctoral researchers with teaching authorization.

**14.3.** In each Evaluation Committee, the member with the highest academic rank among the proposed members will act as president, and in case of a tie, the one with the longest tenure in the same position.

**14.4.** Efforts will be made to ensure that at least two members of each committee share the same field of knowledge as the supervisor of the TFM to be evaluated. These fields will be defined by RD or, in any case, by the Faculty Board. In case of ambiguity, the Degree Coordinator will assign the defense of a specific TFM to a specific committee.

**Article 15.** Each committee will evaluate a maximum of 8 works in one session. In the case of part-time professors appointed as committee members, their dedication will be considered to assign them the appropriate shift.

**Article 16.** Professors who act as substitutes in a particular call may be proposed as primary members in the next call.

**Article 17.** Efforts will be made to exclude professors who supervise 5 or more works in a particular call from being committee members to minimize incompatibility issues as supervisors.

**Article 18.** Maximum rotation in the appointment of committee members will be sought. A schedule will be maintained for this purpose. Faculty members teaching in the degree or in the Center are obligated to participate in these committees. They can only be exempted from this duty by the TFM Committee when justified reasons are documented.

**Article 19.** To plan the defense schedule, in each call and two weeks before the work deposit, the degree coordinator will make a non-binding consultation through the virtual classroom with students enrolled in TFM to find out who intends to defend. With this information, a draft schedule will be prepared with the committees and assigned shifts, which will be communicated to the interested parties. Subsequently, the provisional schedule will be published according to the works submitted on the platform <http://tf.um.es>. The final schedule will be published according to the calendar approved by the Faculty Board.

## Presentation and Defense

**Article 20.** Each student must present and publicly defend their work in the assigned Evaluation Committee, which must be conducted entirely in English and online. The

defense can be carried out from the Faculty of Computer Science premises and transmitted by videoconference.

**20.1.** For the online evaluation, one of the videoconferencing tools available at the University of Murcia will be used. The call will include, for each TFM, the link to the virtual room where the presentation and defense will take place, as well as any other indications deemed appropriate related to the online nature of the event.

**Article 21.** The coordinator of each degree will publish the schedule of presentations and defenses for each TFM through the Virtual Classroom in each call, indicating the date and time, in accordance with the calendar approved by the Faculty Board.

**Article 22.** The presentation and defense duration will be 20 and 10 minutes, respectively. During the defense, each committee member may ask questions to the student.

## Evaluation

**Article 23.** After the defense of each TFM, the committee will proceed to evaluate it, considering at least the scientific and technical quality of the presented work and the clarity of the presentation. Each member will fill out an evaluation form (Annex VI), assigning between 0 and 10 points to each of the following three sections:

- **TFM Document:** Consideration will be given to the approach, organization, and writing quality.
- **Presentation and Defense:** Consideration will be given to the quality of the presentation and the defense carried out.
- **Overall Assessment:** Consideration will be given to the supervisor's report, the work done by the student, and the level of difficulty.

**Article 24.** Each committee member must indicate whether the work deserves an Honorable Mention. If so, they must justify their decision in writing.

**Article 25.** When a committee member rates any of the three aspects below 5, they must justify their decision in writing.

**Article 26.** The grade awarded to the work by each committee member will be calculated as the weighted sum of the ratings given to each of the three evaluated sections using the following percentages:

- Report: 30%
- Exposition and Defense: 20%
- Overall Assessment: 50%

**Article 27.** The final grade of the work will be the arithmetic mean of the grades awarded by each member of the committee. The work will be recommended for

Honorable Mention when at least two out of the three committee members have positively commented on this aspect.

**Article 28.** After the defenses and evaluations of all the works in the current call have concluded, the secretary will be responsible for completing and signing the minutes of their committee.

**Article 29.** In each call, the number of Honorable Mentions available will be calculated based on the number of students eligible for examination in that call.

**Article 30.** It will be the coordinator of the degree who, together with the secretaries and presidents of the various committees, will assign, if applicable, the available Honorable Mentions and will be responsible for applying these mentions to the student's record through the virtual classroom.

## Reviews and Appeals

**Article 31.** Once all the presentations and defenses of the call have been completed, and after the Honorable Mentions have been awarded, the secretary of each committee will publish the list of grades through the virtual classroom, indicate the days chosen for students to exercise their right to review, and deposit all grade sheets in the Student Secretariat for safekeeping.

**Article 32.** Students may exercise their right to review and appeal as established in the regulations of the University of Murcia.