



Master's Degree Final Project Guide

2021-2022



Introduction and objectives

The Master's Degree Final Project (TFM, from the Spanish acronym) is one of the most important learning activities that culminates the master program. It is an academic work, autonomous and individual, which allows the student to delve into a topic of interest and develop and integrate the set of skills and abilities acquired throughout the course.

The TFM is a 12 credits mandatory module, is scheduled for the second semester of the course, and consists of planning, preparation, presentation and public defence of a research work. It must therefore have the structure of a scientific work and be related to one of the subjects studied in the master's degree.

The TFM can verse on the student's practical work done during the internship or can be merely bibliographic. An academic tutor will advise and guide the student in the different phases of the preparation of the work.

The experimental TFM is developed based on the student's practical work done during the laboratory internship. The bibliographic TFM is an in-depth work on a scientific topic, in which the most up-to-date literature is critically examined and new approaches are proposed.

The TFM must be submitted in written report format and defended publicly before an evaluation committee.

The objectives of the TFM are:

- Deepen the knowledge of the student in a specific area of research.
- Integrate the set of skills and competences developed in the master.
- Use existing bibliography and resources to develop a rigorous scientific research work autonomously.

Mentoring and follow-up meetings schedule

During the course of the TFM, the student will have the advice of an academic tutor designated by the VHIR who will be a member of the teaching team responsible for ensuring that the TFM meets the required standards and the academic objectives of the Master's Degree. For this reason, **the TFM report must be signed and considered PASS by the academic tutor in order to be evaluated.**

When the topic of the TFM is related to the research project carried out during the internship, the **Internship Supervisor** will be also involved in the supervision and follow-up of the TFM, therefore, **his/her acceptance of the final work will be also required to be evaluated.**

In case the student chooses to perform a bibliographic TFM, the Internship Supervisor will also act as supervisor for the TFM provided she/he has the required background/knowledge on the topic. Other cases, will be studied individually.

Note that the Internship Supervisor chosen by the student must be notified to the Academic Office when the internship agreement is requested, before beginning the stay. This person will be responsible for signing the agreement and also for the acceptance of the TFM. If any changes occur during the course, the Academic Office must be notified as soon as possible. Otherwise, works signed by someone other than the internship supervisor listed on the agreement will not be considered valid.

For a good planning and monitoring of the TFM, we propose a scheme of work and meetings with the tutor as shown below:

Project stages	Tasks	Follow-up meetings
Project Proposal	<ul style="list-style-type: none"> - At this point, students must confirm if the TFM is going to be a experimental or bibliographic work). - Propose the topic of the work justifying its importance and impact to society at large. - Propose the objectives of the work. - Propose the working methodology to be followed to achieve the proposed objectives. - Identification of the processes to follow to prepare the work and planning of its execution schedule (timeline). - Deadline for TFM Proposal (see Annex 1) 	14-25 th of February 2022
Development and follow-up	<ul style="list-style-type: none"> - Discussion of bibliography and sources of information in the field of study - Initial drafting of the written report. - If necessary, indicate possible changes in the objectives or work methodology, justifying them appropriately. 	18-29 th of April 2022
Completion	<ul style="list-style-type: none"> - Discussion of the drafts and revision of the final version of the work by the academic tutor. - Evaluation and detection of possible deviations from the original proposal of the TFM. - Format for the presentation of results - Drawing conclusions 	1-17 th of June 2022

In this scheme, the different stages of the preparation of the TFM have been made to coincide with the tutorial meetings foreseen in the internship guide (*see Student Internship Guide*).

The Master's Degree Final Project Report

Structure and parts of the written report

The contents and structure of the TFM can vary depending on whether the work is bibliographic or related to a research project.

Students are required to follow the templates provided in this guide (see Annex 2 and 3) depending on the topic of their work.

Formal aspects of the written report:

- **Report shall be written in English.**
- Recommended font types and spacing:
 - Arial, 11; Times New Roman, 12.
 - 1.5 points interline spacing
 - Number all pages except the cover page
- **Length:** The TFM should not exceed 15,000 words for a work related to a research project, or 12,000 words for a bibliographic TFM (excluding annexes and bibliography in both cases).
- Adequacy of the **formal aspects** of the work (presentation, spelling, footnotes, bibliographic citations, etc.) are an essential requirement for the work to be evaluated.
- **Bibliography:** We strongly recommend you to use a paper/reference management system (e.g., Mendeley, EndNote, Papers, Qiqqa, Sente). Number the citations within the text and include the reference list within the "Bibliography" section.
- **Authorship:** Student must comply with good practices and ethical codes linked to research and professional practice. Every time you take an idea or information that has not emerged from one's own, its origin should be cited, allowing readers the opportunity to go to the original sources to verify this information. If the tribunal detects plagiarism, the TFM will be automatically failed (<http://www.plagiarism.org>).

Students will be given a Statement of Authorship Form to be signed and included in their TFM.

- **Acknowledgement:** Previous results from the host group can be included in the TFM, but they should be clearly acknowledged.
- **Research integrity and Social Responsibility:** all the researchers must comply with the highest standards of research practice and integrity following criteria learned during Module 2 on Responsible Research and Innovation (RRI): public engagement, gender balance, research data management, ethical considerations, etc.

- Having few or negative results in an experimental TFM is NOT a bad thing. This is science and it is comprehensible. The TFM is valued by the writing of the work, how the student explains the process and their ability to draw conclusions from it, regardless of whether the results have been positive or not.

Oral defence of the Master's Degree Final Project

The student must make a public defence of their work for 15 minutes. After the presentation, there will be a turn of interventions in which the student will have to answer questions and clarifications from the members of the Evaluation Committee.

To defend the TFM before the Evaluation Committee, the student must prepare a PowerPoint or similar presentation, not to exceed the 20-slide limit. This support material must be in English and must be delivered by the student through the Virtual Classroom as a proof of evaluation (the specific dates will be indicated by the Academic Office).

The oral presentation can be done in Catalan, Spanish or English.

Evaluation

Students must submit the **TFM report** in the Virtual Classroom **by the 30th of June 2022**.

The TFM will be evaluated by an Evaluation Committee composed of three PhD members. **Expected dates for evaluations are 11-13th of July 2022**. However, the composition of the Evaluation Committee, as well as the day and time allotted, will be published by the Academic Affairs Office approximately 15 days before the date of defence.

The final assessment of the TFM module will be obtained from the agreed qualification by the Evaluation Committee of:

- TFM written report (50%)
- Oral defence of the work (40%).
- Evaluation of the student's TFM by the Internship Supervisor (10%)

Since the **TFM must be accepted and signed by the supervisor and the tutor**, it is very important that students have previously agreed with them the internal dates for revision, submission and signature of the work.

Only under exceptional conditions (serious illness, accident, hospital stay, etc.) and upon request an additional call could be considered in September. The Internship Supervisor must send a justified request to the Master Coordination (master@vhir.org) explaining the reasons for taking the extraordinary call and an internal committee will evaluate each case in order to approve the extraordinary call.

ANNEXES

Annex 1. TFM proposal template

MASTER'S FINAL PROJECT PROPOSAL

Work Title:

Student: (please, indicate full name, e-mail and phone)

TFM Supervisor: (please, indicate full name, e-mail and phone)

TFM Co-Supervisor (only if needed): (please, indicate full name, e-mail and phone)

VHIR Academic Tutor:

Justification and objectives:

Methodology and working plan:

Supervisor approval	Tutor approval	Student compliance
(Signature)	(Signature)	(Signature)
Date:2022		

**If you are not able to get this document digitally signed by your supervisor and/or tutor, just send the proposal by e-mail to docencia@vhir.org and add both of them in CC so that we can consider they agree with the proposal.*

Annex 2. Contents Guide for a Research Work

▪ Cover Page.

Students must follow the cover template provided by the master's coordination which includes:

- Work Title
- Name and surname(s) of the author
- Delivery date
- Qualification: Master's Degree in Translational Biomedical Research
- Centre: Vall d'Hebron Institut de Recerca
- University: Universitat Autònoma de Barcelona
- Full name and **signature of the TFM supervisor***
- Full name and **signature of the academic tutor***

**Signatures can be included in a second page, if it is preferred.*

▪ Table of Contents

- **Abstract:** A brief summary of the work, no longer than 400 words, describing the main objectives and conclusions of the work.

Note that abstract can be used by VHIR, with the aim of preserving and disseminating the research and academic output of the VHIR and making it accessible through public communication.

- **State of the art:** Critical analysis and discussion of the existing literature.
- **Hypothesis:** Identification of the problem or starting hypothesis. It is raised the final question that the TFM must answer and justifies its relevance at scientific and social level.
- **Objectives.**
- **Methodology:** Techniques, resources and tools used to carry out the research work, including the incorporation of Responsible Research and Innovation criteria.
- **Results:** Presentation of the results using tables, graphs and other visual tools that facilitate their comprehension.
- **Discussion:** Descriptive, interpretative and explanatory analysis of the results obtained.
- **Conclusions:** General considerations and contributions for the future. Restate your thesis and draw your conclusions about your topic, based on the research studies done or analysed. Propose further experiments or future research avenues. Conclusions in bullet points are preferred.
- **Bibliography:** Include the list of all cited published works. Authors should not cite any unpublished or preliminary data.
- **Annexes**

Annex 3. Contents Guide for a Bibliographic Work

▪ **Cover Page.**

Students must follow the cover template provided by the master's coordination which includes:

- Work Title
- Name and surname(s) of the author
- Delivery date
- Qualification: Master's Degree in Translational Biomedical Research
- Centre: Vall d'Hebron Institut de Recerca
- University: Universitat Autònoma de Barcelona
- Full name and **signature of the TFM supervisor***
- Full name and **signature of the academic tutor***

**Signatures can be included in a second page, if it is preferred.*

▪ **Table of Contents**

- **Abstract:** A brief summary of the work, no longer than 400 words, describing the main objectives and conclusions of the work.

Note that, abstract can be used by VHIR, with the aim of preserving and disseminating the research and academic output of the VHIR and making it accessible through public communication.

- **Introduction:** Introduce the topic (e.g. the illness, pathology or molecular process you will be dealing with), explain, what is the thesis or problem being addressed in the TFM and outline what you will discuss throughout the review. Describe the relevance of the work to your specific research field and why it could be also interesting to a boarder scientific audience
- **State of the art:** Critical analysis of the existing literature. This will be the body of the review work. Break it up into different sections, if needed. Make sure you go through all of the literature in detail, in an organized fashion. Summarizing tables and figures could be helpful. If figures or tables are included, make sure they appear after being cited in the text. Each table or figure should have a caption, with a one-sentence title that summarizes the content, and a detailed description that explains pertinent information.
- **Critical discussion:** This section should not only be a summary of what you have described in the previous section, but a critical revision of the strengths and limitations of the studies you have read. It should have a length of 3-4 pages. Make sure you consider both, works supporting and also works contradicting your thesis. Are there any gaps/flaws to be considered? What have you learnt from both sides?

- **Conclusions:** General considerations and contributions for the future. Restate your thesis and draw your conclusions about your topic, based on the research studies done or analysed. Propose further experiments or future research avenues. Conclusions in bullet points are preferred.
- **Bibliography:** Include the list of all cited published works. Authors should not cite any unpublished or preliminary data. Select key references (5-10% that have provided seminal data/concepts to the field) and provide a single sentence of each, highlighting the significance of the work. Key reference should be original articles in which your TFM is focused (not merely reviews). See any of the *Nature Reviews* journals for an example.
- **Annexes**