



## **QF – Quantitative Finance**

### ***Master Thesis Guidelines for Graduation***

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# Quantitative Finance: Master Thesis Guidelines

## 1 Essentials

In order to earn QF final degree students will have to acquire 120 credits:

- 60 credits during the first year;
- 42 credits during the second year;
- 18 credits for the final thesis and discussion.

The master thesis should be prepared under the guidance of a supervisor (*Relatore*).

A good thesis comes out from a combination of the following ingredients:

*hard work by the candidate on a  
well defined project under the  
expert advice of a supervisor*

Hard work is student's task, while expert advice is QF faculty responsibility. The process of defining a thesis project involves both.

### 1.1 Goals of the master thesis

The master thesis is an individual piece of research on a topic approved by the MTC and the supervisor. The assignment is an opportunity for students to deeply explore a specific area of Quantitative Finance, to summarize the main theories and models and to discuss their applicability. The essential requirement of a master thesis is that it literally demonstrates that students have fully understood the state of the art. The objective of the thesis is to show that the student is able to perform scientific research individually and to clearly report the study and its conclusions. It likewise serves as a practice for those intending to pursue doctoral studies after their successful completion of the program.

### 1.2 Looking for a supervisor

The choice of the supervisor is of fundamental importance. Only full professors, associate professors, assistant professors (researchers), and contract professors who hold a teaching activity at the University of Bologna (UNIBO) may serve as thesis supervisors.

Lecturers of seminars cannot be supervisors (unless provided by a specific agreement).

A co-supervisor (*correlatore*) is a professor who may help the student prepare the dissertation. Foreign

# Quantitative Finance: Master Thesis Guidelines

teachers, lecturers of seminars and external experts can act as *correlatore*.

Students may choose to major in a topic related to teaching activity belonging to their study plan (*piano di studi*).

## 1.3 Student admission grade

At the end of their study plan students are admitted to the final defense of their thesis. Notice that exams grades are on an 18-30 scale, while the final grade is on a 66-110 scale. The admission grade is the averages of the student's exams grades converted into the 66-110 scale.

Grades obtained during your studies are converted to the above scale as follows.

First calculate your Weighted Average as follows: each exam must be multiplied for the number of credits associated to it, and these results must be all summed up; then the result must be divided for the total number of credits of the exams.

i.e.

**You have three exams and they worth 6, 8 and 10 credits respectively,**

**the grades are 25, 26 and 28.**

**The weighted average is therefore calculated as follows:**

$$(6 \times 25 + 26 \times 8 + 28 \times 10) / (6 + 8 + 10) = 638 / 24 = 26,58.$$

**IMPORTANT:** Courses and activities providing an assessment on a pass/fail basis (*idoneità*) such as laboratories, seminars or internships do not contribute to the admission grade.

The weighted average must be multiplied by 110 and divided by 30, and the results are rounded up to the nearest integer value.

i.e.

**The weighted average is 28,7**

**The admission grade will be  $28,7 \times 11 / 3 = 105,233$  (eventually rounded to 105).**

# Quantitative Finance: Master Thesis Guidelines

For every exam that the student passed with honors (*lode*), 0.33 points are added to Admission Grade.

Extra points are given to those students who graduate “on time”:

- July: 1 points;
- October: 1 points;
- December: 1 points

The student admission grades will be published by the *Ufficio di Presidenza* within a few days before the graduation date on the QF website (Home page> Organization> Final examination and ceremony). Students can contact the Registrar’s Office (*Segreteria studenti*) if they wish to check their average in advance.

## 1.4 Thesis defense and final grading (Starting from July 2022)

QF final examination consists in the defense of the master thesis in front of a committee composed by up to 5 professors of the School of Economics and Management and the Department of Statistical Sciences. The commission can grant a maximum of **5 points** to the dissertation which are added to student’s admission grade.

The assignment of a *controrelatore* is compulsory when the supervisor plans to request the Graduation Board to award honours (*lode*) and the candidate has a starting grade greater than or equal to 105/110 but lower than 108/110.

**Please note:** it is not possible to apply for a *controrelatore* if you have a starting grade below 105.

To award 110/110 with honors (**110 e lode**), the Committee must approve unanimously.

## 1.5 How to apply for a “controrelatore”

A *controrelatore* is required only in case a thesis has a particular relevance or interest for the supervisor, and the decision on its request rests solely on the supervisor’s individual judgment. The name of the *controrelatore* must be proposed by the supervisor and is then assigned by the coordinator of the programme who can confirm the professor suggested or assign another professor. The supervisor should submit the request of the *controrelatore* to the *Graduation management office* at **least one month before the graduation**, to allow the Programme Coordinator to designate the lecturer and the candidate to provide the *controrelatore* with a copy of the thesis on time. The supervisor can simply send an email to the *Graduation management office* with the request; he/she can also indicate the name of a professor suitable for being the *controrelatore*.

# Quantitative Finance: Master Thesis Guidelines

The *controrelatore* may take part in the graduation session, if he/she is available. In case of absence he/she has to send the assessment of the thesis through a letter or email to be delivered to Graduation management office but addressed to Committee. The *controrelatore* must be an academician (professor or a researcher) belonging to Unibo or to other universities connected to QF.

If a *controrelatore* was requested for the first session (see below the details of sessions) but the candidate could not graduate, the request for the *controrelazione* must be submitted again for the next session.

**VERY IMPORTANT: The student is required to deliver the thesis to the *controrelatore* AT LEAST 15 days before the graduation. In case he/she does not comply with this rule, the *controrelazione* cannot be accepted and additional points will not be provided.**

## 2 Content & layout

### 2.1 Typical content of the master thesis

The topic of the thesis must be related to one of the subjects covered by QF courses and it is chosen according to the personal and academic interests of both the student and the supervisor.

### 2.2 Length

The thesis should be **approximately** 60 to 120 pages **in length**, including notes, tables, and attachments.

The thesis must follow these criteria:

- Line spacing: 1 or 1.15
- Font: Times New Roman (or similar) 12pt
- Margins: 2-2-2-2
- Cardboard cover lightweight, light colored, not bright, figures and boards format UNI (A4, A3)
- For the final dissertation, usually students print one or more copies of the thesis, one for the Committee and/or the supervisor and one to keep (family, friends).

**IMPORTANT!** you will have to upload your thesis on [studenti on-line](#). No hard copy will have to be submitted to the Student Office.

# Quantitative Finance: Master Thesis Guidelines

## 2.3 References and plagiarism

Accurate referencing and bibliography are an important element of the thesis. Students should adopt a standard citation system (e.g. Harvard, Vancouver, etc.) and bibliography format.

The university takes plagiarism very seriously and has legal implications, concepts and statements taken from the literature should be appropriately reworded and referenced. Exact citations should be clearly highlighted (e.g. between inverted commas or through a different font) and the source should include the page number. On-line sources are admissible when they are appropriate and meet the required scientific standards (and should be accurately referenced in the text), but generic sources such as Wikipedia are not necessarily scientific and critically assessed and should be used with extreme care and parsimony.

**VERY IMPORTANT: According to a decision of the Council of Degree Course, ALL QF THESIS WILL BE CHECKED WITH THE “COMPILATIO” SOFTWARE TO PREVENT PLAGIARISM.**

## 3 Deadlines and formalities

### 3.1 Application deadlines and graduation sessions

The application for admission to the final dissertation must be submitted **on-line** [www.studenti.unibo.it](http://www.studenti.unibo.it) (see details below).

The procedure to apply and the deadlines are described [here](#).

### 3.2 Graduation and tuition fees

Some important rules that graduating students should know:

- **For those who graduate within March**

Students who plan to graduate within the third session should not have paid the first installment of annual contribution in September.

However, if they paid it and they graduate within the session of March, they will be refunded after graduation, except for the amount of the stamp duty. For the refund of the regional fee students should contact ER.GO. (<http://www.er-go.it/>).

- **For those who cannot graduate within March**

Students who fail to graduate within the third session in March must pay the full annual contribution

# Quantitative Finance: Master Thesis Guidelines

for the next academic year.

## 3.3 Graduation Ceremony

At the end of the defense the Committee will give to each graduate some invitations to distribute to his/her guests for the proclamation ceremony.

## 3.4 Certificates and parchment/diploma

Certificates of graduation may be requested to the Registrar's Office or downloaded from "*autocertificazioni online*" a few days after the proclamation.

It will be instead possible to collect the parchment (*pergamena* - the original handwritten diploma) at the Segreteria Studenti di Economia e Management e Dipartimento di Statistica (student registry office), once received email confirmation that it is ready. In case of impossibility of going to the Segreteria, the student may be able to delegate one person to collect it on his/her behalf. This person must bring a written and signed proxy and identity cards photocopies.

Finally, there is also the possibility of asking for shipment, if none of the previous possibilities to collect it are suitable for the student. He/her may write to: [segescosta@unibo.it](mailto:segescosta@unibo.it), and attach a photocopy of the identity document, with the exact shipping address.