

## GuideLine

### Master Thesis and Defense

A master thesis is, basically, a research report on your experiment.

The content should:

- Address a specific issue
- Describe what is already known about this issue
- Describe what you have done during these two years of research and its purpose.
- Be enough original to contribute to the field.

The form should:

- Be well organized with a clear outline
- Be written in a simple voice
- Be accessible, not only by expert in your field, but to non-specialist as well. First advise: when writing your thesis, think as if your reader did not know anything about anything.

## 1. The thesis

### 1.1 Language

Your thesis can be written in French or English. You can use figures, tables, graphs and also appendices with technical details.

### 1.2 Academic form

#### Size

The number of words should be between 10 000 and 15 000, without considering title, table of content, summary, bibliography, appendices and acknowledgements.

#### Line Spacing

No font or font size is imposed, but you are expected to pay attention first to readability. The use of a 1.15 line spacing improves usually the readability (but not necessarily 1.5 line spacing).

#### Font

Classical fonts are required for an official academic thesis: 12 points font Times New Roman or Arial 11 points.

#### Other things to think of:

Whole text should be justified.

Number each page (except flyleaf, abstract and appendices).

Print only one side (it allows the member jury to annotate easily).

## 1.3 General structure of the thesis

The expected structure of your report is:

- Title (mandatory)
- Acknowledgments (optional)
- Abstract (mandatory)
- Abbreviations if needed (mandatory if abbreviations are used)
- List of figures (optional)
- Table of content (mandatory)
- Body of the thesis (mandatory)
- Bibliography (mandatory)

## 1.4 Detailed structure of the thesis

### a) Title page

This page must include:

- Name and First Name
- Title of the research
- The sentence “pour l’obtention du titre de Maîtrise universitaire interdisciplinaire en Neurosciences de l’Université de Genève” ou “to obtain the university interdisciplinary Master’s degree in Neuroscience of the University of Geneva”
- Supervisor’s (and cosupervisor’s if needed) name
- Jury members names.
- You can download the different logos of the University/Faculties here:  
<https://www.unige.ch/communication/publier/charte/logo2/>



TITLE  
By Author

A thesis submitted to the Faculty of **Psychology/Sciences/Medicine**

to obtain the university interdisciplinary Master’s degree in Neuroscience  
of the University of Geneva

Master supervisor

.....

Jury

.....

.....

.....

Geneva, date

## **b) Acknowledgements**

When doing your research project, you were supervised and helped by some people. You must not forget to thank them for having spent time with you and for having taught you. One page max.

## **c) Abstract**

The abstract must consist of a single page and has to be in English even if your thesis is written in French. It should contain:

- a short introductory sentence: from general theme to your particular research field
- quick methods (techniques, design, conditions, groups of subjects)
- highlight your best results
- conclusion on these results/your research (what did you show? Why did you contribute to the field?)

## **d) Table of content**

The table of content must be very academic, so use word style for that, as it also allows to have automatic coherence between the table of content and the titles in the main text.

## **e) Abbreviations**

Necessary if you use abbreviations in your thesis. Just a reminder that EEG and fMRI are abbreviations... The abbreviations should appear in alphabetical order or in order of appearance. However, don't use too many abbreviations, don't forget that the reader may not be an expert and that it can be difficult to retain many abbreviations.

## **f) List of figures**

Not compulsory but it can be useful for the readers, especially for the jury members, if they want to come back to a particular figure, when reading or during your defense.

## **g) Body of the thesis**

The expected structure of the thesis is described below. The quality of writing will be considered as well.

The body of the thesis has to be built as a scientific paper. The different parts will be longer than in a scientific paper, with more details.

### ***Introduction/Review of literature***

Your job is to review the literature that should guide the reader from a general theme to your particular field of research. You need to:

- Present the background of this field
- Introduce ideas/concepts that the reader will need later to understand your work

A possible structure is:

- Brief introduction on your field of research

- An organized explanation of the different theories/concepts/brain areas/cells...
- Logical links from the theoretical background to your research
- Explain your specific framework according to the theoretical background if you have one
- Question/Objectives/Hypothesis of your research

Don't forget that:

- each concept needs to be linked to your research and well-explained by several references
- you must provide non-specialist with a clear understanding of the field
- NO PLAGIARISM! Be very careful in how you retranslate others' ideas/results

### ***Material and methods***

5 - 10 pages

This part answers the question: how did you perform your experiments? What kind of material/methods did you use? What population/cells...?

You must describe all experiments you conducted in a precise manner. Any researcher in neuroscience should be able to repeat your protocol by reading this part.

This part should contain:

- Subjects/Groups/Cells...
- Experimental techniques used (staining, patch-clamp, fMRI, EEG, behavioral measures...)
- Experimental design/paradigm (describing all parameters you used)
- Data analysis
- Statistical analysis
- No results, only methods

Do not forget that articles in your field can help you organized your thesis but also write the methods section.

### ***Results***

10 -20 pages

Your results must be organized and have logical presentation.

- Do not analyze your results here
- Comment/interpret all your results in the discussion section
- Entitle and comment all your figures, graph, table...Comment means that you need to describe (just describe and not interpret) any effect that can be read on your results.  
All your figures/graph/tables should have a title and explained.
- For statistical results, always specify if it is significant and add the F value (or t, chi2...) and its p value.

### ***Discussion***

5 -15 pages

This part should be organized as follows:

- Recall your project (what is your main question?)
- Summarize and analyze results presented
- Interpretation of your results and how you include them in your field of research (link to background part)
  - o Possible interpretation and how it fits your own framework theory

- Consistency with others' results? Why or why not?
- Support or contradict theories?
- Strengths and limits
  - Place your findings into a bigger perspective
  - How your experiment could be improved
  - Direction for future studies on the subject
  - Possible clinical application...

### **Conclusion**

1-2 pages

Recall of your research, results obtained and possible interpretation.

The conclusion can give a brief summary of what you have done and found, and provides an opening to a new scientific question and a new experiment (PhD project?) to be led or a new but linked scientific question.

### **h) Bibliography**

Minimum 50 references – There are never too much references!

You must present the bibliography as you would do for an article, using Mendeley or Endnote for example. No particular style is expected, you can use the style you want. Just note that usually, using authors' names rather numbers in the main text increases readability (as the reader immediately see authors' names of the cited paper).

### **1.4 Criteria of evaluation**

Part of the thesis	Expected content	Criteria of evaluation
<b>CONTENT</b>		
Introduction	The introduction aims at addressing a new scientific question from a detailed, relevant and clear review of literature about the topic.	<ul style="list-style-type: none"> <li>▪ Relevance of bibliographical references</li> <li>▪ Clarity of the presentation (I am not in the field, am I able to understand what has been written?)</li> <li>▪ Ability to analyze and synthesize</li> <li>▪ Ability to mention, include and explain other scientific publications</li> <li>▪ Positioning of the topic compared with respect to the state-of-the-art</li> <li>▪ Scientific knowledge and insight on the field of research</li> <li>▪ Clarity of the research question</li> </ul>

Material and methods	This section aims at presenting the scientific approach and at justifying the used methods to answer the question.	<ul style="list-style-type: none"> <li>▪ Relevance of the scientific approach with respect to the scientific question</li> <li>▪ Understanding of the scientific approach</li> <li>▪ Ability to clearly describe all needed details for reproducibility of the experiment</li> </ul>
Results	The results must be shown on figures, tables, graphs, and to be described. A brief reminder of the used method before describing is most of time welcome.	<ul style="list-style-type: none"> <li>▪ Relevance of the progression of the results</li> <li>▪ Relevance of the figures, tables and graphs.</li> <li>▪ Clarity and accuracy in the description of the results</li> <li>▪ No outstanding result is expected. Researchers do not always find they expected to find. The found results must be objectively described.</li> <li>▪ Precision of the data analysis and controllability of the data</li> </ul>
Discussion	<p>The discussion includes:</p> <ul style="list-style-type: none"> <li>- the interpretation of the results</li> <li>- the constructive criticism of results and the used methods (for example limitation of the experiment linked to the size of the sample, used technical method, used statistical methods...)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Data fit in the discussion</li> <li>▪ Ability to interpret critically</li> <li>▪ Ability to link the results to the state-of-the-art</li> <li>▪ Ability to synthesize</li> <li>▪ Ability to discuss further and to bring new ideas</li> </ul>
Conclusion	The conclusion can give a brief summary of what you have done and found, and regarding the results, provide an opening to a new experiment to be led or a new but linked scientific question.	<ul style="list-style-type: none"> <li>▪ Ability to synthesize</li> <li>▪ Ability to build an outline of a new protocol</li> </ul>
<b>FORM</b>		
<ul style="list-style-type: none"> <li>- Care given to the presentation and language</li> <li>- Appropriate layout</li> <li>- No grammatical, structural or spelling errors</li> <li>- Coherency, organization, comprehension</li> <li>- Be careful with long sentence... sometimes short is better!</li> </ul>		

If the jury think that your thesis doesn't reach these criteria (grade <4), you'll have 1-2 weeks to re-write. Once again, in master thesis, they won't judge you on your results but on the knowledge and insight you have on your research!

## 2. The defense

### 2.1 Choice of the members of the jury

The jury is composed of the research director and two members of the teaching profession. At least two of the five different institutions (FPSE, Science, University Medical Center, Geneva University Hospital and Department of Psychiatry-Belle-idée) have to be represented in the jury. For more information, see article 9b in the Master in Neuroscience Regulation.

The supervisor needs to have the examination report during the oral exam. This document can be found on this link:

<https://neurocenter-unige.ch/master/current-students/>

**The jury and the date of your defense must be validated by the coordinator of the master some weeks before your defense.**

You must book a room by yourself for your defense.

### 2.2 How long does it last?

The final oral exam consists of:

- 30 minutes of presentation
- 30 minutes of questions
- Discussion between jury members (closed session)

#### a) Presentation

You must have a written support: a power point. Your presentation must be brief with an emphasis on your results and interpretation.

The structure of your presentation will be the same as your written thesis:

- Introduction/review of literature
- Materiel and methods
- Results
- Discussion
- Conclusion

About 150 mots by minute.

2 to 3 minutes by slides, so about 10 slides (2/3 intro, 1/2 material/method, 2 results, 2 discussions, 1 conclusion

Please

## **b) Questions**

Questions may be asked on a particular point that you need to explain more in detail, a methodological point, on your main research project or even on the work you did for your short-term internship

## **2.3 Ratings**

You will get a grade on 6 for the written work and a grade on 6 for the defense. The final grade, which will appear on the transcript, is the means between the two previous grades.