Title	Supporting guide for B.Sc. and M.Sc. Students.	**Revised by:**	**meetPhD Group.**
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Supporting guide for B.Sc. and M.Sc. Students

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Keywords: Scientific practice, communication, data management, citation, metadata.
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1 Guidelines

The following guidelines are the results of the **meetPhD group** meetings, and have two specific purposes: (i) Provide an initial support in the supervision process of Bachelor and Master students and (ii) to provide a basic standard for the storage and potential future use of your scientific work.

2 Supporting literature

Here you can find some interesting references suggested in order to help you success. This is a small selection —that you are encouraged to increase— covering some general aspects of the scientific work.

Scientific topic	Suggested sources
Ethics in science	Responsible conduct of research... (Pain, 2010)
	What’s in a picture? (Rossner and Yamada, 2004)
Forestry	Forest dynamics, growth and Yield (Pretzsch, 2009)
	Grundlagen der Waldwachstumsforschung (Pretzsch, 2019)
Data management	Good enough practices for scientific computing (Wilson et al., 2017)
	Ways to reuse your data (White et al., 2013)
	R for Data Science (Grolemund and Wickham, 2017)
Good writing	How experts communicate (“How experts communicate,” 2000)
	Reference management (Lemke, 2016);
	Citation guide (“TUM Citation Guide,” 2019)
	Tips and Tricks for the final research papers and thesis (Technische Universität München, 2020)
Statistics	Effect size, confidence interval, and statistical significance (Nakagawa and Cuthill, 2007)
	Protocol for data exploration (Zuur et al., 2010)
	Protocol for regression analysis (Zuur and Ieno, 2016)

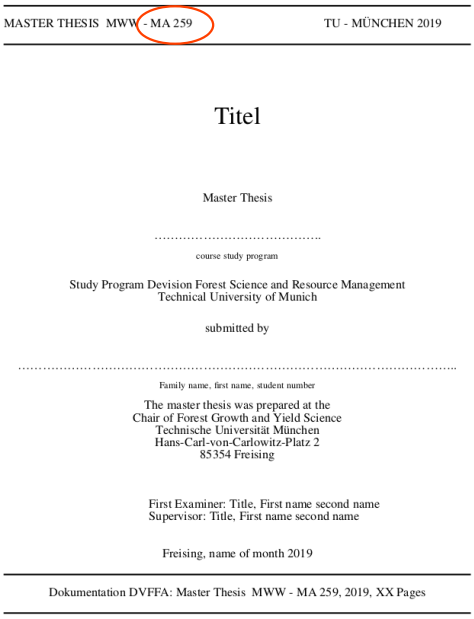
3 Writing your B.Sc. / M.Sc. work

Once you successfully completed your work and start to write your final document, some additional guidelines must be followed:

The first page of your work should be written following the template provided by the chair. Once your bachelor/master work is finished and ready to print after your supervisor approval, you will be provided with a consecutive number to be included in this template (Fig 1. red oval). More information on the printing characteristics of your work will be provided directly from your supervisor or the secretary of the chair.

Communication is a key process in science, do not be afraid to ask for help when required. Please, be sure you return any books, journals, documents, lent to you by your supervisor, these documents will help other students too.

Always keep in mind that the supervision process is an **individual but coordinated effort,** where students and supervisors are both responsible for its success.


MASTER THESIS MWW - MA 259 TU - MÜNCHEN 2019

Titel

Master Thesis

.....

course study program

Study Program Devision Forest Science and Resource Management
Technical University of Munich

submitted by

.....

Family name, first name, student number

The master thesis was prepared at the
Chair of Forest Growth and Yield Science
Technische Universität München
Hans-Carl-von-Carlowitz-Platz 2
85354 Freising

First Examiner: Title, First name second name
Supervisor: Title, First name second name

Freising, name of month 2019

Dokumentation DVFFA: Master Thesis MWW - MA 259, 2019, XX Pages

Fig. 1: *Example of the layout M.Sc. Thesis.*

4 Files to be returned to the Chair

Depending on the program you are registered at TUM, some files have to be returned to the chair of Forest Growth and Yield Science as seen in table 1:

Table 1: Printed copies of the written work required for the chair

Study program	Printed copies required	Digital storage[2]
B.Sc. Forstwissenschaft und Ressourcenmanagement	Five (5) printed copies [1].	One (1) digital media.
M.Sc. Sustainable Resource Management	Four (4) printed copies [1].	One (1) digital media.
M.Sc. Forst und Holzwissenschaft	Five (5) printed copies [1].	One (1) digital media.

[1] *Two of these copies are paid by the chair;*
[2] *See digital storage media requirements*

In **ALL CASES**, a digital copy of the work should be handed in, following the structure here provided for its **digital storage.**

4.1 Digital storage

A copy of the information used for the work should be delivered to the chair for its digital storage —USB, SD card, CD, etc— and **must** follow the structure here shown (Fig. 2 and Table 1). **Please Avoid copies of the same files in different formats!**

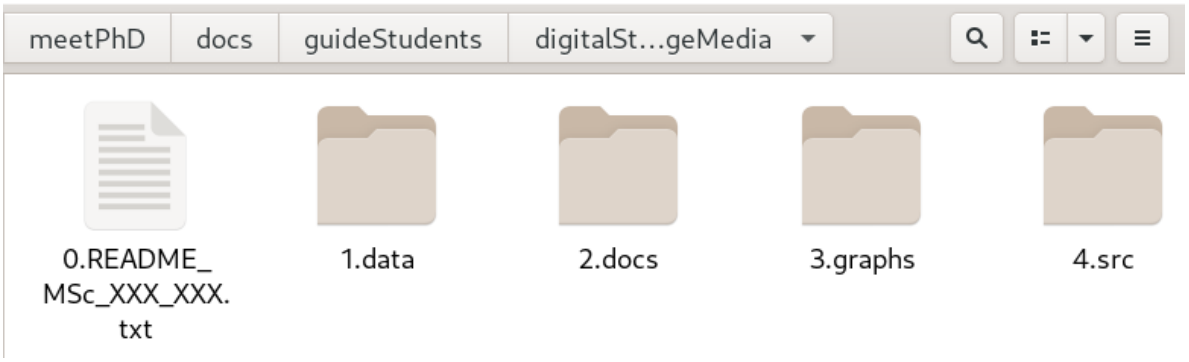


Fig. 2: *Content structure of the digital storage media.*

Table 2: *Description of the file and folders of the digital storage media.*

Item	Description
README.txt	Numbered as "0", saved in **.txt** format, and named with the type of work (B.Sc or M.Sc) and the Last and first name of the author. Contains the details for the correct interpretation of the contents placed on each folder (see "Readme.txt" file structure).
Folder "data"	Numbered as "1", contains all the data files used for the analysis carried out in the work (.xls, .xlsx, .csv, .txt, .dat, .Rdata, etc.).
Folder "docs"	Numbered as "2", contains the digital copy of the work in a read/write format (.pdf, .doc, .docx, .odt, latex, etc.).
Folder "pics"	Numbered as "3", contains all the pictures and images used on the work (.png, .svg, .jpg, etc.).
Folder "src"	Numbered as "4", contains all the scripts used for the analysis carried out in the work (.R, .py, etc.).

4.2 "README.txt" file structure (Metadata)

A copy of the README.txt file template **will be provided to you** by your supervisor in your first meetings. Every B.Sc or M.Sc student will fill-up this template file that is intended to help ensure the correct interpretation of the data stored on the digital media by the owner or other users on a later date (Research Data Management Service Group, n.d.) This file will help you to have a coherent structure during your work and to facilitate the re-use of data when required for sharing or publishing according to the FAIR principles (Wilkinson et al., 2016).

Table 3: Description README.txt file content.

Field	Description
1. General information.	Contains the title of the work, author and supervisors information, collection date, location and funding sources.
2. Sharing / access information.	Contains the licence and restrictions placed on the data as well as the links to publications or

	sources from which the work was derived.
3. Data & file overview.	Contains a list of the files contained per folder, relationship between the files, additional collected data, and possible versions of the files.
4. Methodological information.	A general description of the methods used to generate the data, instrument, standards, calibration, climatic parameters and people involved in the sampling.
5. Data-specific information.	Variables, description of the variables, units, missing data code used and other abbreviations used

5 Sharing your work

Finally, as last requirement, your work should be presented to the staff members of the chair in order to report your findings and conclusions. The dates and conditions of this presentation will be schedule in agreement with your supervisor throughout the supervision process.

6 References

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