MSc Thesis Course guide Wageningen University MSc Research Practice Course guide Wageningen University

- Part B: chair group specific regulations - ADP (Adaptation Physiology)

Thesis coordinator ADP:

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Contents

1. Introduction

Welcome to the Adaptation Physiology Group (ADP). This guide is part B of the Wageningen University MSc Thesis course guide and MSc Research Practice course guide. It contains the chair group specific, and therefore leading, guidelines for organising your Thesis and Research Practice at ADP.

Contact ADP:
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Course profile and prerequisites

The ADP Thesis and Research Practice adhere to the WU profile. The aim of these courses is to train your academic skills by means of an in-depth, scientific study on a subject of interest. With completion of the Thesis or Research Practice, you will have demonstrated that you can conduct a research-based project individually and independently.

At ADP you can conduct research for a Thesis with a workload of 36 - 39 ECTS (Major Thesis; ADP80436) or of 24 ECTS or more (Minor Thesis; ADP80424 – up till September 2021) or for a Research Practice with a workload of 24 - 39 ECTS (Research Practice; ADP79324). NB 1 ECTS equals 28-hour time investment of you. A 36 credits Thesis usually takes 24 weeks of 42 h /week or 26 weeks of 40 h /week. Compulsory courses for a Major Thesis at ADP are 'Health, Welfare and Management' (ADP-30306) and 'Adaptation Physiology' (ADP-30306). For a Minor Thesis and Research Practice, sufficient background knowledge in Adaptation Physiology is required (to be judged by the Thesis contact person of ADP) and for example one of the ADP MSc courses.

If you follow one of the study tracks in the MAS-specializations Adaptation, Health and Behaviour or Nutrition and Metabolism, you can either take an MSc Thesis, an MSc Research Practice or an MSc internship at ADP.

Learning outcomes

Following up on the WU MSc Thesis learning outcomes (see WU course guide Part A), we stress the importance of 'taking the lead' in your learning process. YOU are responsible for achieving the required learning outcomes, which includes: progress of the Thesis, time planning, making appointments with the supervisor and of course the quality of the (draft) reports.

People involved in Thesis or Research Practice at ADP

- ADP coordinator; dr Nicoline Soede (nicoline.soede@wur.nl); first contact person when you consider doing a Thesis/Research Practice at ADP. Nicoline tries to find a suitable Thesis/Research Practice project and an ADP supervisor.

- ADP supervisor; a staff member of ADP with expertise on the topic of your Thesis/Research Practice topic. S/he is the primary supervisor of you during your project and your contact for all issues concerning your project. The ADP supervisor is also assessor of your project and monitors the administration in OSIRIS (learning agreement, progress evaluation, upload of thesis, etc.).

- ADP examiner; a staff member of ADP (can also be the Thesis/Research Practice coordinator) reads and assesses the final Thesis/Research Practice report and fills in the final assessment form and

grade in OSIRIS.

2. How to find a topic for your Thesis or Research Practice?

Documents needed for this part of the process (available at ADP website and links at the end of this document):
- MSc Thesis or Research Practice course guide WU
- MSc Intake form ADP
- MSc Thesis or Research Practice learning agreement

Key role in this part of the process:
- ADP coordinator (dr Nicoline Soede)
- ADP supervisor

Approximately 6 months before the intended start of your Thesis/Research Practice, you send an e-mail to the ADP coordinator to plan a meeting to discuss your wishes.

NB If you are unsure at which chair groups you can/want to do your Thesis/Research Practice as part of your MSc program, you can first consult your study advisor.

Do not go to other ADP staff members before the meeting with the ADP coordinator. Before the meeting, fill in and e-mail the MSc intake form to clarify your wishes and ideas for a Thesis or Research Practice. To clarify these for yourself, take one or more of the following actions:

- try to remember the topics and teachers that inspired you during the ADP MSc courses,

- talk to fellow students about their Thesis,

- visit the ADP website to look at research topics and recent Thesis topics, and

- 'google' research topics, institutes and/or universities of your interest,

- in the hallway in front of the ADP secretariat (C0061), you find a board with current MSc Thesis, Internship and Research Practice students and their topics.

After the meeting, and based on your wishes, you will be directed to the most suitable staff member of ADP to discuss the options in more detail. Usually such a meeting with a staff member results in agreeing on a topic for your research. If you agree, notify the ADP coordinator. If you fail to agree on a topic, you can make a new appointment with the ADP coordinator to find another topic/supervisor. After agreeing on a topic, that staff member will usually be the main supervisor of your Thesis or Research Practice, but a second or even a third chair group or external group may also be involved.

3. At the start of your Thesis or Research Practice

Documents needed for this part of the process (see Brightspace – ADP students and links at the end of this document):
- MSc Thesis or Research Practice Learning Agreement

Key ADP role in this part of the process:
- Thesis / Research practice student
- ADP supervisor
- ADP secretariat

After agreeing on a Thesis/Research Practice and a starting date with your supervisor, you notify the ADP coordinator. At that time, you can also create a case in OSIRIS (link: https://wur.eu/tir-start) in

which arrangements about the thesis are noted (e.g., start date, code, supervisor, ..) and relevant documents need to be uploaded during your thesis/research practice.

Close to the start of your thesis, you arrange an appointment with A. your supervisor to discuss arrangements regarding content, planning, supervision and assessment of your Thesis or Research Practice and B. the ADP secretariat (office.adp@wur.nl) who will inform you about regulations (e.g. arranging required permissions for access to labs and/or experimental facilities (CARUS)) and addition to the mailing list for ADP-MSc students to receive invitations for ADP student meetings and colloquia.

At the start, a learning agreement needs to be made. This contains the mutually agreed arrangements about your thesis/research practice which should be finalised within 3 weeks from the start of your thesis/research practice. This agreement is available on paper (see Brightspace ADP students), but the final agreements need to be filled in in OSIRIS by the student. Discuss with your supervisor if he/she wishes to start with the form on paper.

The Learning agreement of the Research Practice includes personal learning goals. See appendix 1 of the WU Research Practice learning agreement for WU guidelines on this. At ADP we expect you to make

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Box 1 - S.M.A.R.T. Personal learning goals – for Research Practice

Personal learning goals -if thought through and formulated well- are very helpful to help you focus on your learning progress during the Research Practice. Personal learning goals should be useful to you and should enhance your functioning and result in a better product.

S.M.A.R.T. learning goals are **S**pecific, **M**easurable, **A**ttainable and connected to **A**ctions, **R**elevant and **T**ime-bound. In other words, what exactly do you want to achieve (state the desired outcome), how do you know if you achieved your goal, what will you do to achieve your goal, why is this an important goal to you. Personal learning goals often start with 'I', and are positively formulated in an active way. Be aware that a learning goal does not have to be written in one short sentence, but can be a short story, that includes all aspects of SMART.

More information about SMART goal setting can be found on the internet. A good illustration is the following video clip, that includes even SMART**ER** goals, i.e. they add the importance of evaluation and reward. Check the clip at https://www.youtube.com/watch?v=XpKvs-apvOs and see the concluding screen of this clip.

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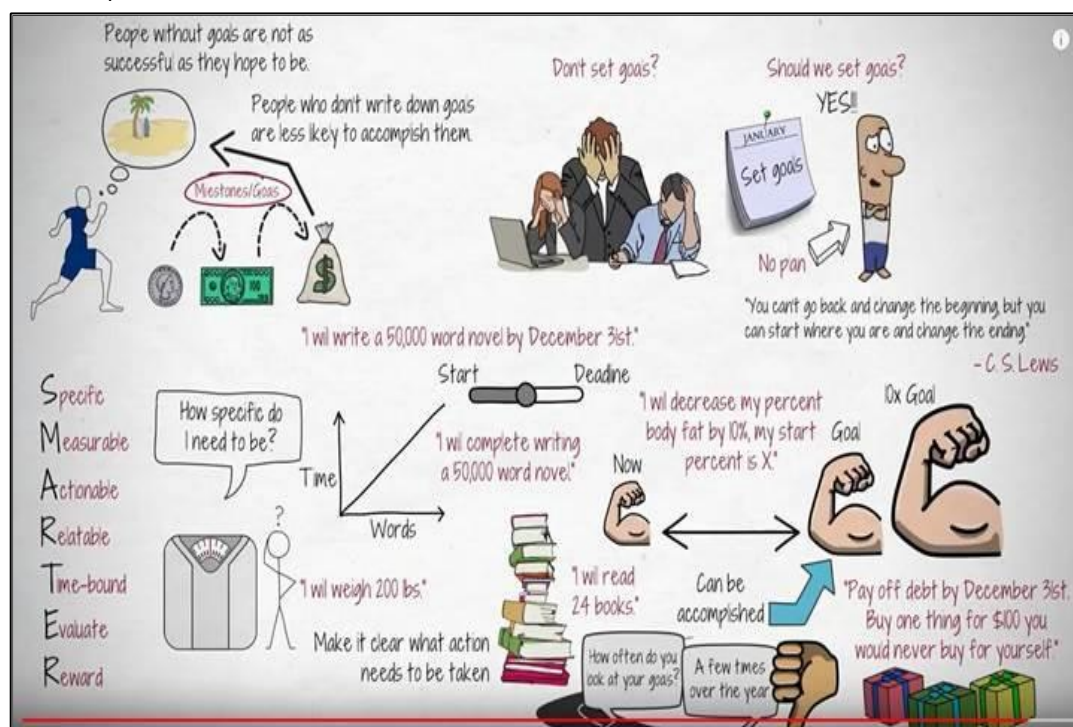
these learning goals S.M.A.R.T. (see Box 1). The WU Learning agreement of the Thesis does not include

learning goals, but in the ADP Thesis Learning agreement you must shortly formulate 3 learning goals (under the heading '9. Arrangements for individual situations) and discuss these with your supervisor.

Workspaces for MSc students are available at Zodiac, at the second floor above BHE (wing A) and at the fourth floor above APS (wing E) and you are also most welcome to join our tea, lunch, and coffee breaks in the coffee corner (at ca. 10:15 h, 12:15 h and at 15:15 h).

4. During your Thesis / Research Practice

Communication with your supervisor(s)

Students usually have contact with their primary supervisor once every 2-3 weeks, but the actual frequency is something to be discussed with your supervisor. The role of the supervisor is to coach and to advise and is available for feedback and support. To smoothen the communication with your supervisor(s), you are advised to:

- Make appointments with the supervisor at least 1-2 weeks in advance;
- Be clear about the aim of the meeting: What do you want to discuss? Do you like feedback from the supervisor? When do you send information to be read/discussed? It helps to make an agenda before each meeting and a short report after each meeting!
- Use supervision-time as efficiently as possible. Allow supervisors sufficient reading time, so send documents to be read well in advance and be clear about your wishes concerning feedback. E.g., which specific questions do you have, or which sections of the report do you wish to have feedback on.
- Discuss timely with your supervisor and ADP coordinator when the supervision or the project does not meet your expectations.

Monthly student meetings

Every 3rd Thursday of the month (starting at 13.30h) there is an ADP student meeting for MSc Thesis and Research Practice students. The aim of the student meeting is to acquire an understanding of other ADP-related research projects (topics, problems, insights, ..) and can only function well if students come well prepared (thinking about things to share or to ask) and actively attend the meetings. In these meetings, the research proposals are presented and discussed, and students can pitch their Thesis topic, results are discussed, and peer feedback is given on presentations and slides (as a practice for your colloquium). You should attend the meetings while doing a Thesis or Research Practice. However, depending on research activities or Thesis work elsewhere, you can ask permission from your supervisor to skip a meeting. Attendance is recorded by the chairperson of the student meeting.

Progress evaluation (within 2 months after the start)

Documents needed for this part of the process (see Brightspace – ADP students and links at the end of this document):
- ADP Progress evaluation MSc Thesis or Research Practice
- MSc Thesis or Research Practice assessment form & Rubric

Key ADP role in this part of the process:
- ADP supervisor

Before one third of the duration of your Thesis or Research Practice, a formal progress evaluation

needs to be done (see Parts A of the respective WU study guides), in which you assess and reflect on your progress and discuss this with the ADP supervisor. It is advised to do the assessment based on the Rubrics for Thesis or Research Practice. For the Research Practice, this includes assessment on the personal learning goals and might lead to changes in these learning goals. An evaluation form for the progress evaluation is available on BS for ADP students.

Normally this assessment concludes that the student 'most probably will be able to finish in time and at a sufficient level' and this decision to Continue should be registered in OSIRIS. If the assessment concludes that this will not be the case, the decision Terminate needs to be registered in OSIRIS by the supervisor and the reasons for this decision need to be put on paper and send to the secretariat, until a formal evaluation form is made available.

Besides this formal evaluation moment, it is advised to schedule additional evaluation moments, for example after finishing the research proposal.

5. Assessment of the Thesis / Research Practice

Documents needed for this part of the process (see Brightspace – ADP students):
- WU MSc Thesis or Research Practice assessment form
- WU MSc Thesis or Research Practice assessment Rubric
- ADP Colloquium guidelines
- ADP Colloquium assessment form

Key (ADP) role in this part of the process:
- ADP supervisor
- ADP examiner
- ADP secretariat (office.adp@wur.nl)

The final assessment of the Thesis or Research Practice consists of the grading of different criteria related to the performance (40%), the report (50%), the presentation (5%) and the oral examination (5%), and the reflection report for a Research Practice (pass/fail). You need a grade of at least 5.5 for each of these 4 categories to pass. At ADP, the responsibilities of the ADP supervisor and the ADP examiner are as described in the table in chapter 5 of the WU MSc Thesis or Research Practice course guide.

Grading is done by the ADP supervisor and examiner independently, using the WU Thesis or Research Practice assessment forms and the accompanied Rubrics, and before the oral exam.

In practice, you will receive the grades for your Thesis or Research Practice at the end of the oral exam, after a short consultation between the ADP supervisor and examiner to evaluate your oral exam. Immediately after the oral exam, the ADP examiner will fill in the final assessment form in OSIRIS with the final grades.

6. Reports and writing

During your Thesis and Research Practice, you must draft several reports: a Research proposal, a Research report and (only for Research Practice) a Reflection paper. In this chapter you find some guidelines and help for the writing process and the specific rules for each of these products.

Note: carefully check the <u>assessment form</u> and rubrics to know which aspects of the final report is graded in which way. This should help you in writing the various parts of the report.

Note: <u>Plagiarism</u>. Plagiarism is considered a serious form of fraud. On the internet you can find numerous definitions and examples of plagiarism. On the Brightspace page for ADP students you can use the Turnitin plagiary check for (parts of) your report. You are obliged to use this check for your final report (*see Brightspace*).

Note: <u>Appendix on AI</u>. All Thesis and Research Practice reports must include an <u>appendix on the use of AI</u>. In this appendix, you state whether you used AI for your research proposal or report, and if so, how. In case you did not use AI, this appendix can be one sentence in which you state that you did not use AI. In all the other cases, you have to acknowledge your use and report how it affects your assignment. The appendix should contain a list of the prompts you used, a link to the conversation (see FAQ for ChatGPT) and an explanation of how you used the output of AI (i.e. in what way did the output of AI affect your text).

General guidelines and help for report writing

The research proposal and Thesis or Research Practice report should be written in English, with proper spelling and grammar; correcting English is not a task of your supervisor.

The materials and methods and results section are written in the past tense. In the introduction and discussion, facts are usually presented in present tense and findings in past tense (see scientific papers for examples).

Write clearly and accurately, but as simple and concise as possible, like the scientific papers that you use for your literature background and/or papers from your supervisor. It might help to ask a fellow student to read your text before submission to your supervisor, to check clarity and logic. For more information, you can consult literature on scientific writing ([e.g. Hengl and Gould, 2002](#)). For formatting, you are advised to use the formatting tools in Word (check online manuals) and Endnote or equivalent for cited literature. Students can choose their own format for their reports (e.g., font size and font type), but the report should be clearly readable. A suggestion is to use the format of this course guide: font size 11 p, margins 2 - 2.5 cm, line spacing 1.15, font e.g., Calibri.

Supervisors will give feedback on draft versions of your report (research proposal, Thesis report, Reflection report). As a rule of thumb, feedback on a specific part of the report is given only twice (once on the Reflection report). It is therefore wise to first discuss and agree on the outline and setup of (parts of) the report before you start writing a first draft. Discuss the method of feedback with your supervisor. Moreover, be aware that also the quality of your first draft, and the way you handle feedback on this draft, contribute to the final grading.

> **Note:** If you experience problems during the writing process, contact the [Wageningen Writing lab](#).

Research proposal (<4 weeks from start)

It is important that you write your proposal in your own words and with a focus on your (sub)topic, even when your research is part of a larger research proposal prepared by a staff member/PhD candidate. You

can find research proposals of former ADP students at the Brightspace page for ADP students.

Length: The proposal <u>should not exceed 3 A4 excluding references</u> (using the suggested format).

The proposal should contain the following elements:

> ***Administrative information:*** Name and registration number, supervisor(s), course reference (code) and number of ECTS, date.
>
> ***Title:*** Should describe the contents of the Thesis work but be as brief as possible. If applicable, indicate if it is a pilot study.
>
> ***Introduction:*** Introduction should cover the following questions "What will be studied? Why is it an important question? What do we know about it? How will this study advance our knowledge?". The introduction should also address the following points and in it you will refer to relevant literature sources:
>
> - Motivation – formulate the problem
> - Theory – summarize the current understanding of the problem you are investigating
> - Current gap(s) in knowledge
> - Objective(s)/research question(s) and hypothesis/-es – what the objectives/research questions of your research and the hypotheses (related to the theory) are
>
> ***Materials and Methods:*** Give a clear description of the main methods used for this Thesis (including
>
> e.g., housing conditions of animals) and some information on the proposed statistical analyses (discuss with your supervisor). A flow chart illustrating your study design may help.
>
> ==***Considerations regarding animal use in experiments:***== Animal use for education and research is only allowed after approval of a national (CCD) committee, advised by an institutional (DEC) committee. WUR policy is to develop and implement alternatives to animal testing.
>
> <u>**If**</u> your thesis or research practice includes involvement in animal experimentation (data collection, laboratory analyses or using data), in this section, you shortly evaluate the validity of the animal use based on the 3Rs.
>
> > <u>*Replace*</u> *An animal test is fully or partially replaced with computer models or laboratory tests on tissues. In some cases, so much information can be obtained in this way that fewer, or no test animals are needed.*
> >
> > <u>*Reduce*</u> *The aim is to obtain a reliable research result using as few test animals as possible. Statistical techniques are particularly important for achieving this. Improved research methods or test conditions can reduce unintended variants, allowing a reliable result to be obtained using fewer animals.*
> >
> > <u>*Refine*</u> *There are diverse ways of refining animal experiments. The welfare of test animals can be improved by adapting housing, introducing remote monitoring (telemetry) and/ or improving laboratory techniques so that less material (e.g., blood) is required. It is also possible to adapt protocols and procedures to improve the quality of animal-animal and human-animal relationships (e.g., between the test animal and its carer). Another way of improving the welfare of the test animal is to introduce measures that reduce boredom and prevent stress.*
>
> ***Time schedule:*** Report all activities, including all relevant periods and dates up to handing in the final Thesis.
>
> ***References:*** preferably use the format as used by the Journal of Animal Science. This means that in the text, you refer to papers by giving the last name of the first author (or 2 names if there are

two authors or adding et al. when there are more than two authors) and the year of publication, e.g., Kemp, 2021; Bolhuis and Reimert, 2021; Parmentier et al., 2021.

When your proposal has been approved by your supervisor (at most 1 month after the start), you send the proposal as a PDF file to office.adp@wur.nl, titled: Lastname-Firstname-Proposal-date who will add it the proposal to Brightspace ADP students.

Thesis and Research Practice report

Length: The report should, as a rule of thumb, not exceed 40 pages (using the current format, see General Guidelines), which equals ca. 25.000 words (excluding reference list).
The report should contain the following sections:

Cover: Title (clear, descriptive, and short), Name of the author, MSc-Thesis Adaptation Physiology

Title page: title, name of author, course reference (code) and number of ECTS, supervisor(s), date, and message on copyright:

Copyright: No part of this publication may be reproduced or published in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the head of the Adaptation Physiology Group of Wageningen University & Research, The Netherlands

Preface: It is up to the student to include a preface.

Table of contents: With maximal 3 levels of the headings.

List of Abbreviations: Only needed when many abbreviations are used in the report.

Abstract: Should be clear, descriptive, and not longer than 600 words.

Introduction: See above at research proposal guidelines.

Literature review: A literature review considering the scientific background of the Thesis subject should be included, either as a part of an –extended- introduction or as a separate chapter (discuss with your supervisor). As a rule of thumb, this section should be approx. 10-15 pages, including appropriate tables and figures, but the size will depend on the amount of experimental work and/or data-analyses included in the Thesis work.

Materials and Methods: Should contain a detailed description of the materials, research methodology, techniques, and way of (data) processing, including statistics. Check related scientific papers for common headings/parts in this section.

Results: Report your data. Do not include any interpretations, preliminary conclusions, and references to literature in this section. Check related scientific papers for customary practice in formatting tables and figures.

Discussion: This section gives a critical evaluation the results. The outline is as follows:
- In a short section, refer to the research questions / objectives of the study and answer them by giving the most relevant results of the study, thereby also explaining if hypotheses were accepted or rejected.
- Further discussion/interpretation of the outcomes using relevant literature.
- Strengths/weaknesses of the study (including those of the used materials and methods).
- Recommendations for further research can be given throughout the discussion/interpretation of the outcomes and when discussing the strengths and weaknesses of the study.

Conclusions: In the conclusion section you link the outcomes of your research to the

objective(s) or research question(s) described in the introduction. A thesis will have no more than five substantial conclusions. Do not introduce new results or insights at this point.

References: see above at Research proposal guidelines. The entire report must be carefully cross-checked to ensure that the spelling of author names and year of publication are correct and correctly referenced in the text and in the list. Cross-check as well whether each publication mentioned in the text is included in the list and vice versa.

Appendices: Optional

Note: The structure of your Thesis / Research Practice report may differ from the outline below, depending on your project. Discuss the preferred structure with your supervisor.

Reflection report (Research Practice only)

Length: The reflection report should be max. 1800 words **(**3 pages in current layout, see General guidelines), so concise writing is important.

In the reflection report the focus is on the assessment of the academic skills that you were able to apply or learn (see chapter 4 of the MSc Research Practice course guide WU what this entails).
The report should include:
- Motivation for the Research Practice.
- A reflection on the general learning outcomes of the Research Practice.
- A reflection on your personal learning goals, as set out in the Learning Agreement.
- A reflection on the relation between your master's program and your Research Practice, and your potential professional career and future work field.

An important aspect of reflection is the ability to describe specific events, specific actions you took or behaviour you expressed, how that made you feel, what the result was of that action/behaviour. Be specific and prevent very general phrases such as 'I learned a lot', 'I enjoyed the experience'. Explain what you learned/enjoyed and what 'a lot' means to you.
Note: a draft report can be discussed once with your ADP supervisor

7. Data handling and data management

Data handling

Your supervisors will help you order your data for statistical analyses and will also help you with the correct statistical analyses of your data. However, you should make yourself acquainted with both the appropriate way of ordering your data for analyses and the most relevant procedures in SAS (the most used statistical package at ADP), using the available self-learning SAS course which is available on the Brightspace page for ADP students.

Data management protocol

In general, the rule is that the university owns data that is collected or generated by employees and thesis students. This means data need to be stored, which include the data and analyses from both field and lab work, e.g., behavioural observations, feed intake, body temperature, energy/ nitrogen

balance, cortisol analyses, immune globulins. *'The rule of thumb here is that the stored data, together with the documentation (the 'dataset') that is stored along with it, should allow researchers who are/were not involved in the research to understand the data, its context, and the conditions for using the data, and to rerun the reported analyses. Ideally, the information that is stored along with the data should also allow others to replicate the study'* (cited from Data management protocol/policy ADP*)*. Thesis students should store Protocols, primary data, secondary data, statistical analyses, and their thesis, accompanied by a Readme file (see Appendix 1) that explains the set-up (see red box in Scheme 1).
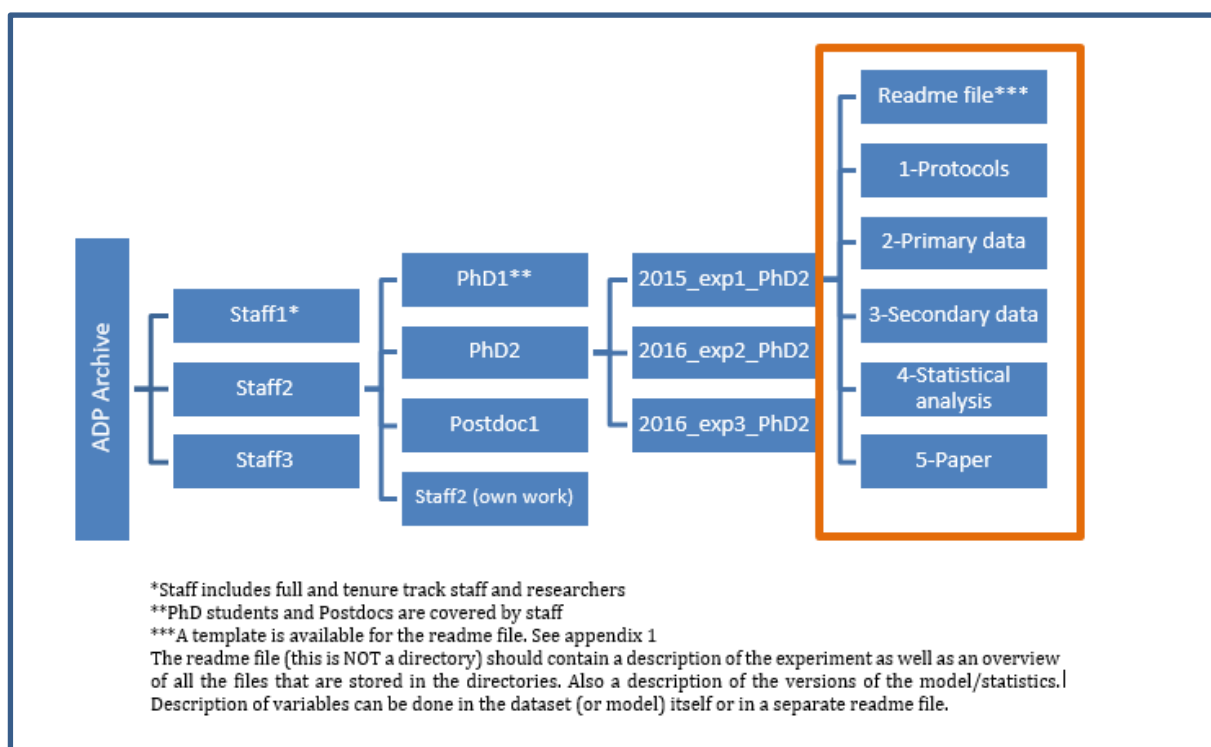
Scheme 1 Set-up of the ADP Archive of data

At/after your oral defence, you need to hand in all original data sheets and final versions of all protocols, data files and SAS-files in the appropriate format to be stored in the ADP - data management system (discuss with your supervisor).

8. Facilities

Brightspace page for ADP students

The Brightspace page for ADP students is a source of information to Thesis and Research Practice students. It contains e.g.

- research proposals (from 2019 onwards)
- colloquium summaries
- links to relevant documents (like the ones mentioned in this guide)
- online meetings for colloquia and student meetings
- help in writing
- help in data ordering and analyses, including a self-learning SAS course.
-

Working at Zodiac – computer rooms

As an MSc Thesis or Research Practice student you can make use of study places in the Zodiac building. Check the website of the WU and/or the reception for opening hours of the building. For working in the evening or weekend, use the facilities at the Orion/Forum building (for opening hours, check WU website or Orion/Forum reception).

> **Note:** in Corona times you are allowed to study in Forum or Orion, but you must make a reservation via TimeEdit. Students that need to use Ethovision or Observer (behavior scoring), can use the computers in the Etholab, room B0083 (discuss with your supervisor).

Working at the laboratory

To be able to carry out work in the ADP laboratory, strict laboratory rules have been established ensuring the safety of yourself and your colleagues. Your supervisor informs the laboratory staff members about your work. The secretary will bring you into contact with one of the laboratory staff members to discuss your work and give you the laboratory instructions. You are not allowed to work in the lab without supervision and preferably not alone, so discuss with your supervisor and your laboratory supervisor when you can work in the lab.

> **Note:** You are not allowed to work in the laboratories outside opening hours. Only in extraordinary circumstances, under extremely strict conditions an exception can be made. If necessary, discuss this with your supervisor and with the laboratory staff member involved.

Working at the animal experimental facilities

The experimental facilities 'CARUS' can only be entered when your WUR card has been activated. If you need access to these facilities, you should contact the ADP-secretariat. You are not allowed to work in the experimental facilities without supervision.

9. Towards the end

Documents needed for this part of the process (see Brightspace – ADP students and links at the end of this document):
- Colloquium guidelines ADP
- Colloquium assessment form ADP
- WU MSc Thesis and Research Practice assessment rubrics

Key ADP role in this part of the process:
- ADP secretariat (office.adp@wur.nl)
- ADP supervisor
- ADP examiner

Colloquium - Oral presentation with summary

At the end of your Thesis or Research Practice, you have to give a 20-minute oral presentation (colloquium). Guidelines for the presenation and summary are available at the Brightspace site for ADP

students under ADP colloquia.

Our colloquia are scheduled <u>every 2nd Tuesday of the month</u>; BSc Thesis, MSc Thesis/Research Practice and MSc internship students present their work. As a Thesis student, you should attend at least 10 MSc-colloquia during a major Thesis (36-39 ECTS) and 5 MSc-colloquia during a minor Thesis (18-33 ECTS). Attendance is recorded and your colloquium will be assessed by 3 ADP staff members, using the Colloquium assessment form. Attended colloquia can be part of your oral exam (see below). Students attending the colloquia are expected to play an active role by reading the colloquium summaries in advance (available at the Brightspace page for ADP students) and asking questions to the presenters after the presentations.

Steps to take:

1. At least 3 weeks before the end of the Thesis / Research practice, consult your ADP supervisor for the appropriate timing of your colloquium and contact the ADP secretariat for setting the date. The colloquium must be held <u>before</u> the oral exam.
2. About 1.5 week before the planned colloquium, the ADP secretariat will contact you to check your registration for the colloquium and the approved title of your colloquium.
3. Write a colloquium summary following the Colloquium guidelines. Your ADP supervisor must approve the summary.
4. Send the approved colloquium summary to the secretariat at the latest the Friday at 12:00 h before your colloquium date.

   Note: in case the Thesis or Research Practice is performed in a company and is confidential, a colloquium at ADP may not be allowed. Then it is possible to have the colloquium at the company. At least one ADP staff member (coordinator, supervisor or examiner) must be present at the external colloquium. The colloquim summary must always be made irrespective of the location of the colloquium.

Oral exam

At least two weeks before the exam, you do a final Turnitin plagiary check of your report (see Brightspace page for ADP students) and send a corrected (if necessary, based on the plagiary check) final version of your report by e-mail (Word version) to your supervisor, examiner and the ADP secretariat (office.adp@wur.nl), accompanied by the list of colloquia that you attended. Also upload your report in OSIRIS. Research Practice students also need to send and upload their Reflection report.

During the oral exam, you are questioned about the content of the Thesis / Research Practice and the field you have been working on, and the questioning includes the list of colloquia you attended. Your knowledge, understanding, insight, but also creativity and scientific attitude are evaluated. During the oral exam of your Research Practice, also your reflection paper may be discussed.

The oral exam takes 45-60 minutes and will be held by your ADP supervisor(s) and an ADP examiner. At the end of the oral exam, which also marks the end of all Thesis and Research Practice requirements, you will receive the assessment and grades, based on the WU assessment forms for Thesis and Research Practice. In some cases, you may be requested to adjust the Thesis after the oral defence, based on remarks by your supervisor or examiner.

Steps to take:

1. Plan the oral exam in consultation with your ADP supervisor. The ADP examiner must also be present during the oral exam, so start well in advance to ensure a timely date. Set this date for the oral exam, either with your ADP supervisor or via the ADP secretariat after the colloquium date (discuss with ADP supervisor what is preferred).
2. Hand-in the final version of the Thesis / Research Practice report, the latter including the Reflection report and the list of attended colloquia at the ADP secretariat (office.adp@wur.nl), ADP supervisor and ADP examiner at the latest two weeks before the oral exam and also upload the files in OSIRIS.
3. Bring a copy of the Thesis / Research Practice report and -for Research Practice- the reflection form to the exam. The secretary will print the necessary hard copy at your request.

10. Overview relevant documents

All documents referred to in this ADP MSc Thesis or Research Practice course guide part B can be downloaded from the ADP-students Brightspace site: https://brightspace.wur.nl/d2l/home/67420. You will get access to this site after joining ADP for your MSc Thesis or Research Practice.

All WU documents referred to in this ADP MSc Thesis or Research Practice course guide part B can also be accessed via this link: http://wur.eu/Thesis-internship

The MSc Thesis or Research Practice course guides WU part A, the MSc Thesis or Research Practice course guide ADP part B, and the intake form are also available from the ADP website: www.wur.eu/adp

Appendix 1 (for item 7. Data management plan)

General information experiment

Title of thesis:
Code of experiment:
Thesis / Research Practice supervisor:

Start date:	**End date:**

People involved: –

Summary of experiment

Description of 'protocols' folder. You can refer to standard protocols and/or mention where procedures differ from the standard procedures and protocols.

If applicable, specify location of stored materials, like (un)fixed biological specimens, corresponding logbooks, video's, etc.

In case laboratory analysis are (partly) done by an external institute, please give an explanation.

Description of 'primary data' folder

Description of 'secondary data' folder. Mention filenames of final datasets.

Description of 'statistical analysis' folder. Mention filenames of final SAS models.

Description of 'paper' folder. Add PDF of final paper.