UNIKASSEL VERSITÄT | ORGANIC AGRICULTURAL SCIENCES

Guidelines to Scientific Assignments

Examinations board

Decision from 18.2.2016

Table of Contents

Preliminary remark

The manual is limited to a few aspects which need further attention when preparing written papers, project thesis, etc. Additional requirements concerning the master thesisshould be discussed with your supervisor. Recommended reading and analysis of relevant literature is indispensable in order to become familiar with working on scientific assignments. It is recommended to check out the following references:

- Anderson, J. and Poole, M. (2001): Assignment and thesis writing. 4. ed., Brisbane: Wiley.
- Booth, V. (1995): Communicating in science: writing a scientific paper and speaking at scientific meetings. 2. ed., Cambridge: Cambridge Univ. Press.
- Day, R.A. (1998): How to write and publish a scientific paper. 5. ed., Westport: Oryx Press.
- Holtom, D. and Fisher, E. (1999): Enjoy writing your science thesis or dissertation: a step by step guide to planning and writing dissertations and theses for undergraduate and graduate science students. London: Imperial College Press.
- Wagenen, R.K. van (1991): Writing a thesis: substance and style. Englewood Cliffs, NJ: Prentice-Hall.

To clarify thoughts and the temporal capacities, it has proved helpful to create a first draft of the introduction and the structure at the beginning of the assignment, then to discuss this with the supervisors. It is advisable to conduct a joined discussion with all supervisors already in the early stages of the assignment.

In general, it is not compulsory to write an exposé (concept for your assignment), but it might increase the quality of your workflow.

1 Basic Assignment Guidelines

Originality and Independence

Originality and independence are important quality criteria of every assignment. The requirements on these criteria differ depending on which qualification the assignment aims to achieve.

Research and citation

Every assignment requires a correct and careful research, citation or rather references. For the reader it has to be easily comprehensible at all times and without ambiguity if other peo-ple's intellectual property has been borrowed. It needs to be clearly recognisable what has been derived literally or mentally.

External factors

Assignment should include a full disclosure of all (external) factors that might reasonably cause an impartial third-party to question the development of a completely independent academic opinion, for example through support via grants, third-party funding or economic bene-fits.

Attribution of statements

The basic rule of every scientific work is to carefully pay attention when quoting an author not to insinuate a statement that he has not done in this form.

Translation

When translating a foreign-language original quotation, the original source must be indicated. When free-translating a foreign language one should be careful not to insinuate statements, which were not made in the original text. Third party translations need to be indicated.

Subject- specific common knowledge

It is not required to verify traditional common knowledge of a discipline by a quote or a refer-ence. What matters to this general common knowledge, should be assessed from the per-spective of each discipline. In case of doubt, a decision is up to the institution that certifies the qualification.

Plagiarism and data manipulation

Plagiarism, thus the practice of taking someone else's work or ideas and passing it off without declaration, is an offence against the rules of correct scientific working practice. The same counts for manipulation of data. In general, plagiarism and data manipulation are attempts of deception. If, for example three or more text passages are identified as content of somebody else's source and are not cited according to these guidelines, the assignment is failed. In order to identify plagiarism some supervisors use plagiarism-identifying software.

Own work and text

The transfer of own works or texts is against the rules of good scientific practice when it is not verifiable or quoted in the assignment.

Ghostwriting

A serious offence against the rules of good scientific practice is to cooperate with third-parties, which contribute their texts or text components to the scientific assignment and pass the ghostwriters work off as one's own.

Multiple Authorships

In collective qualification assignments the authorship of each participant has to be clearly identifiable. A person who hardly made a difference with his/her contribution to the assign-ment is not to be named as an author. In principal, honorary authorships or authorship ac-cording to a hierarchy without own substantial contribution are regarded as scientific mal-practice.

Dual responsibility

It is mainly the author's responsibility to observe the basic rules of scientific practice with regard to the scientific assignment. However, the supervisor and/or examiner is in charge, too. The duty of the supervisor is to inform the examinee in the beginning about the basic rules of scientific practice and if necessary to explain. If the supervisor is in doubt about the adher-ence to academic rules, it is his duty to consequently pursue the doubts, too.

As far as the Examination Regulation and the General Regulations allow, the supervison may be (partially) delegated. The final responsibility is with the examiner as by constrast it is extremely personal and never delegable. However, in order to competently judge subareas of scientific assignments, the examiner is allowed seek expert advice for special cases (e.g. in interdisciplinary projects).

2 How to write an exposé

The intention of an exposé is to clarify goal, content and process of the planned assignment between student and supervisor. Altogether it should include two to four pages (Project or Bachelor thesis) or five to seven pages (Master thesis) (including a tentative structure, time schedule and, if necessary, literature list). A first conversation with the supervisor should be contemporary to the registration deadline of the assignment. Modifications or additions to the exposé should be recorded.

Introduction and way of looking at research problem

In this part, background information and the current state of research are to be presented based on literature research. This representation has to lead to the objective of the assign-ment and the formulation of research questions.

Objective and presentation of questions

This section defines the objectives of the assignment and the formulation of the research questions. This is an important part because it determines the framework for the further re-search process and methodology. To make sure that the workload is appropriate, you should already discuss with your supervisor the objective/formulation of questions.

Methodology and scheduled procedure

At this point you should describe methodology and scheduled procedure of data collection (e.g. literature review, survey, observation, test procedure) that helps you answering the re-search question. In addition give an explanation about the way of proceeding and the study framework (e.g. in surveys): definition of the chosen population, the random sampling and size of sample. Part of the exposé should also include a description of the whole process from data collection to data analysis and your consideration about the evaluation method.

Time schedule

It is very important to put some effort into the draft of a time schedule to make it realistic and possible. The time schedule contains different steps of the workflow of the research related to the time frame. Your time schedule is based on the determined turnaround of the thesis (e.g. eight weeks Bachelor thesis). You may create a time schedule for example with a chart.

3 Formal design of the assignment

3.1 General

Spelling

Using punctuation marks and the rules of English spelling correctly are of greatest importance. Please use the latest edition of an English dictionary.

Formatting

- Consecutive, Arabic numerals (1,2,3…)
- margin: 2.5 cm left/right, top/bottom
- font size text: equivalent Times New Roman 12 or Arial 11
- line spacing in the text 1.3 or 1.5 (Bibliographical references: line pitch 1.0)
- font size footnote: equivalent Times New Roman 10 or Arial 9 (line pitch 1.0)
- text orientation: justification

Footnote

Requirements concerning footnotes may vary depending on the scientific discipline. The social sciences and humanities use them more frequently than the natural sciences. If the text is important it does not belong into the footnote, is the text not important then it even does not belong into the footnote and can be completely left out at all. It is important here to talk to the supervisor.

3.2 Quotations

All other authors' thoughts or data must be cited correctly within the text or tables or charts. Word-for-word, indirect and secondary quotations occur as follows:

- Word-for-word: "text" (author year, page)
- Indirect: text (author year, page)
- Secondary (avoid if possible): text (author year, page, cited from author year)
- Two authors: text (author 1 &author 2 year, page)
- More than two authors: (first author et al. year, page)
- Oral notification: first name family name (oral), date

There are no naturally inevitable rules to quote literature. Variations, e.g. if the page number has to be indicated are possible but need further discussion with the supervisors. Rules of quotations are to help the reader to check your statements and to find interesting literature that you used in your assignment more easily.

Quotation rules are based on conventions – and they can be different in details according to the discipline. If you, e.g. write an article for a scientific journal you have to find out beforehand which quotation rules you have to use and to stick with those rules if you want to publish your article. The same applies for the university context; depending on which person you will write your project, bachelor- or master thesis or your internship report, you will be confronted with various demands according to the supervisors' preferences or the scientific traditions. The following shows some.

Is there a literal citation in the text, usually the page will be indicated from which the quote originated. In the natural sciences, it is not common to use literal citation. Only in the case if exact phrasing is necessary (e.g. definitions). By all means, you should always have in mind that the citation is easily to determine. It is generally assumed if a journal article has been cited, it should be read as a whole, which as a rule is reasonable in contrast to textbooks and other books where it is not reasonable for anybody to read the whole book only to identify a specific statement. Here the page needs to be indicated.

3.3 Front page

The front page should be designed corresponding to figure 1:

University Kassel

Faculty of Organic Agricultural Sciences

Course of studies: Sustainable example science

Bachelor-/Project-/ Master thesis

Topic

Assignment title

1. Examiner: Prof. Dr. Ulrich Hamm
Faculty of Agricultural and Food Marketing

2. Examiner: Dr. Bernhard Example
Faculty of Sustainable Example Science

submitted by

Max Mustermann (date and place of birth)
Matriculation number: 12345678

Witzenhausen, September 2014

Figure 1: Sample front page

3.4 Indexes

The table of contents is on a separate page after the front page. It presents the contents and the structure of the topic as well as the focal points of the writer.

The table of contents is followed by the list of abbreviations, the list of figures and the list of tables, provided with Roman numerals (e.g. I list of abbreviations, II list of figures, III list of tables). Altogether abbreviations should be used very cautiously. If only a small number of figures and tables have been used, they can be summarised within a single index.

3.5 Figures and Tables

The task of figures and tables is to depict facts. The presentation has to be self-explanatory, it must contain all information necessary for clear understanding. Abbreviations in a key, for example, must be explained in the footnote in the title of the table or in the caption of the fig-ure, sample sizes and significances must be indicated etc. A list of references is absolutely necessary if it was taken from a different source. A reference to the text is always necessary just as a reference to the figure in the text like: "…as it can be found in figure 1…".figures and tables are added left justified to the text (see table 1 below). The text is above and below the figures and tables that must have a meaningful title. Tables need to have headlines, figures, captions. Figures and tables are numbered and listed in the list of tables or figures. The figures and table sources must be listed in the bibliography with all other sources.

Table 1: Sample table

Table x: Assessment of course of study in agriculture by students (in percentage of those interviewed)

	applies completely	applies more or less	partly	applies more or less	applies completely	
boring (n=380)	7.2	27.3	42.4	19.7	3.4	interesting
one-sided (n=379)	3.4	14.5	28.2	43.3	10.6	many sided
high expectations (n=375)	8.8	32.3	42.4	15.2	1.3	low expectations
theoretical (n=377)	2.2	9.5	32.6	36.9	18.8	practical
large learning effort (n=378)	7.4	32.8	46.6	11.4	1.8	small learning effort
unimaginable for me (n=380)	43.4	25.3	16.6	11.3	3.4	imaginable for me

Question: I shall now give you several word pairs to the course of study of agriculture. You must decide according to this table how you would assess.
Source: Hamm et al. 1999, p. 55 (translation from German)

Which way of expression (e.g. figure or table) you use is a matter of taste. The same Infor-mation should not be represented in the text, table and figure at the same time. A reference in the text is enough to point out the important statement of the chart or figure. If you present results as figure or table you have to explain the results first in the text, the details can be taken from of the table or illustration. For example "The hens of the test group had a signifi-cantly higher daily gain than the control group (p=0,03, tab. 1)".

3.6 Attachments

Only additional information that is not necessary for understanding but to give interested readers a complete picture of the assignment is part of the attachment. Raw data must be added on a CD-ROM (this varies from different sections or institutions). Attachments are numbered consecutively just as figures and tables. You also have to refer in the text.

3.7 Affirmation

At the end of every assignment needs to be an affirmation, which includes the date and signature.

"I, herewith assure that I have completed the present thesis independently and without unauthorised help other than those cited in the thesis. No part of this work has been used in another thesis qualification procedure before. I have marked all places in the thesis, which are taken verbatim or analogously from published or unpublished writings. I agree that this thesis could be examined for plagiarism with anti-plagiarism software. For this reason I provide the thesis in electronic and anonymous format."

3.8 Technical Support

The design (graphic illustration and the implementation of valid agreements of the structure, source selection and quotation) of a scientific assignment has as well as the content a big influence on the overall grading. The use of software application and IT- Service of the uni-versity supports many proceedings of good scientific practice. In particular the following:

Research work

Possible sources are textbooks (often for basic knowledge), reviewed articles in scientific journals (originals of scientific research or overview articles; often in English), Presentations from scientific conferences or publications, research based. For the current state of research scientific articles are mostly the best choice. Often conference proceedings are even more up to date, but less detailed or include only preliminary results.

Literature search is possible via library databases such as OPAC (= Online Public Access Catalog), KARLA, HeBis, KOBRA and scientific databases like Web of Science (http://apps.webofknowledge.com), PubMed (www.ncbi.nlm.nih.gov/pubmed), Science Direct (www.sciencedirect.com), Organic Eprints (www.orgprints.org). Or via internet search en-gines like Google Scholar.

It is recommended to use more than one database, your supervisor will assist you here. It is possible to download full articles from Science Direct or the homepage of other scientific publications to which the University of Kassel has access. The link http://ezb.uni-regensburg.de/ezb.phtml?bibid=UBKAS indicates the access rights. To get access you need to log in within the network of the university (e.g. from the library or from home with VPN-access.) Open-access-articles can be downloaded as full text version.

Helpful software applications

Virtual Desktop (Intranet with software applications and Online Database): http://www.uni-kassel.de/its-handbuch/computerarbeitsplaetze/virtuelle-desktops.html

Dreamspark (cost-free use of Microsoft applications): http://www.uni-kassel.de/its-handbuch/daten-dienste/softwarecampuslizenzen/microsoft-dreamspark.html

Citavi (Quotation software, training offer at the library): http://www.uni-kassel.de/ub/footer-navi/a-z/citavi.html

Zotero (cost-free Quotation software): http://zotero.org/support/de/quick_start_guide

4 Assignment Structure

The content needs to be coherent and in relation to the structure of the thesis. A meaningful structure allows a reader who is not informed regarding the topic of the thesis to suggest himself title and content of the assignment. The common format of an assignment structure includes the main chapters Introduction, Literature Review / Recent Findings (State of the Art), Material and Methods, Results, Discussion, Conclusion and the Summary. The Main chapters have to be divided into reasonable subsections. Emphasis with regard to content is shown in the extent of the subchapters. Equal sub chapters need similar emphasis. It is im-portant to choose chapter headings that indicate correctly and precisely what the chapter is about. At the same time the chapter headings needs to be kept short and understandable. The bibliography follows after the summary and will not be numbered just as the attachment.

The structure follows the numerical classification. The single structure topics should be equal, sub- or super-ordinated remaining on the same level. Detailed sub-division leads to complexity and hinders the logical flow of text and comprehension for the reader. If possible there should be no more than three subdivisions, maximal four. The number of subdivisions should conform to the extent of the assignment. A structure topic should not contain less than two subdivision items.

The structure suggested as follows refers to empirical or experimental assignments. Assign-ments that refer to literature research or essays can feature a different structure that should be discussed further with the supervisor in individual cases.

4.1 Introduction

An Introduction should be short and contain the following points:

- Aims and Objectives outline the research problem case (knowledge gap) and describe the significance of the topic
- Objectives – as precise as possible (including research hypothesis in experimental or analytical assignments (could be designed as questions))
- Way of proceeding – what does the reader expect; research design. Not applicable in experimental assignments because of the standard design: Aims and objections in the Introduction; Material and Methods; Results; Discussion; Conclusion.

4.2 Literature review / Recent Findings

Generally the literature review should provide the reader a basis of understanding for the further assignment. Often it needs to be decided which literature to use in this chapter and which in the discussion. Repetitions should be avoided as much as possible. It is not about only stringing summaries of various articles together, but actively bringing the information together. In which points the different authors agree or disagree? What might be the reasons for disagreements? What could be reasons for

objections? Where are appraisals safe guard-ed and where are knowledge gaps? Are statements only assertion, assumptions or verified through research?

4.3 Material and Methods

This chapter is a clear, objective description of what was done. It should be as short and at the same time complete as possible. Reasons, why it was done in a certain way or what went wrong although planned, belongs to the discussion. The chapter only contains facts of the actual experimental procedure. With one exception, the explanation of a minor issue thatwould be too difficult to explain in the discussion. Quotes from literature are usually the exception. They are appropriate if methods and definitions are in reference to somebody else. Complex facts can be displayed in figures or charts. Very important is the clear and honest presentation of the experimental scope. If, for example, 20 people are examined but due to a specific difficulty the data of only 12 people went into the evaluation, this needs to be mentioned in this part of the assignment. Also a clear explanation of the applied statistical methods belongs to this chapter. If trials included animals, the chapter should be named “An-imals, Material and Methods”. This and the following chapter should use simple past except it sounds definitely weird.

In the chapters: “Material and Methods”, “Discussion”, and “Results” it will be reasonable to use the same chronology to discuss facts.

4.4 Results

This chapter as well the previous one is a pure representation of facts without interpretation. It should be as short and complete as possible. This includes indication of the prevailing size of the sample, the degree of freedom and/or the statistical parameters.

4.5 Discussion

The discussion can be designed twofold: Structure of discussion: From important, paramount aspects to questions of detail or from methodical considerations to results.

To start the discussion it is often helpful to repeat the particular results to give an overview. But it should be avoided debating the results again in the discussion. The results are as a rule presented in the past tense. Only if you are sure that the results are generalisable, use the present tense.

4.6 Conclusion

No new thoughts or results should appear in this chapter. The conclusions should briefly repeat the answer to the question that was asked for in the Introduction and if necessary give a short perspective on further questions that may occur. Settle the question what further pro-ceedings may occur from the results (“so what”). In this chapter you have to close the circle around your assignment.

4.7 Summary

On one page, summarise aims, methods, results and discussion of the whole assignment.

4.8 Bibliography

Every author that was quoted in the text has to be named in this chapter. Abbreviate or write out (to avoid mistakes) journal titles, translate foreign literature (except English-speaking). Order of the references in the text (e.g. in the case of several quotes that are named at the end of the sentence) occur as followed:

- In alphabetical order of the author family names
- In chronological order if you have one author with more than one work
- First single author, then second author duo, then several authors
- If several publications from a single author / collective of authors from the same year, add a letter to the year (e.g. XY 2015a)
- Missing author information quote with ANONYM(US)
- Name affix put after the family name e. g: SENCKENBERG, G. von (1978)
- If citing literature following common requirements occur:
- Understandable and consistent
- Precise (sort of source)
- Complete (all necessary information to the sourcing)
- Short (in published limited print scope)

If quoting a part of a book that is marked with author names, do it as in the following example:

Knierim, U., Sundrum, A., Bennedsgaard, T., Roiha, U., Johnson, P. F. 2004: Assessing animal welfare in organic herds. In Vaarst, M., Roderick, S., Lund, V., Lockeretz, W., (Hrsg.) Animal health and welfare in organic Agriculture. CBA International: Wallingford, S. 189-203.

It is usual in some disciplines to name the collected edition again in the Bibliography.

Vaarst, M., Roderick, S., Lund, V., Lockeretz, W., (Hrsg.) Animal health and welfare in organic Agriculture. CBA International: Wallingford.

Internet references have to be listed in the bibliography as well. As books, journals and news papers are collected and archived in libraries, internet sources are stored on the server of the publisher or producer of the database non-electronic sources have priority over electronic sources. Internet sources will be continuously changed or even deleted. One should make a distinction between an internet source which is published in a printed form (e.g. in a scientific journal) and sources that are exclusively published electronically (e.g. as a website). In case the source was published as a print, it will be listed like a printed publication. Here an example of an essay that was published printed but was sourced online in an electronic form:

Sage, C., 2013: The interconnected challenges for food security from a food regimes perspective: Energy, climate and mal consumption. Journal of Rural Studies 29, 71-80.

Or:

Sage, C. 2013: The interconnected challenges for food security from a food regimes perspective: Energy, climate and mal consumption. Journal of Rural Studies 29, 71–80, doi:10.1016/j.jrurstud.2012.02.005.

For sources that have been published exclusively on the Internet, potential authors and the title are given. Especially to mention is the date on which die Internet source was last seen. The Information should be labelled with an addition “Online on the Internet” or a similar advice and provided with the Uniform Resource Locator (URL). If the website was lately updated, this information should be added into the bibliography. The source given as example offers additional references for citation of online sources:

Taprogge, R.: Introduction: Quotation from Online sources in the Internet. URL: http://www.muenster.de/taprogge/ma/vw.htm [Stand: 20.10.2010]

You do not need the access date for sources from http://orgprints.org/ because it is a permanent archive. When specifying e-mails in the bibliography notice that a personal e-mail is not public. In case of public achiving the sender needs to be asked if he allows the publication due to data protection.

Private person, Ilse: RE: Your request. 25.09.2014. Online in the Internet. E-Mail from Ilse Privatepersonilse@private.life.de to Markus Muster <muster@u-muster.de>