

# **Guidelines for Bachelor Theses at the Department of Applied Biochemistry**

(as of August 2019)

## **General / Formatting**

- Use of a suitable, easily readable font (Calibri preferred)
- Use of justified text
- Font size 11 and line spacing 1.5 in body text (for Calibri)
- Font size 10 and line spacing 1.2 in legends of tables and figures
- for papers supervised by the Department of Applied Biochemistry, no confidentiality agreement will be signed.

## **Structure of the paper**

Cover page / 1st page: Title of the thesis, name of the candidate, matriculation number, TU Berlin, Institute of Biotechnology, Department of Applied Biochemistry, year of submission, names of reviewers, name of direct supervisor if applicable.

Please do not use external logos (see examination regulations!).

## **Table of contents**

1. abstract: For papers in German only a German abstract is necessary (one page). For papers in English, both a German and an English summary (approximately one page each) must be included.
2. list of abbreviations: In general, each abbreviation should be written out the first time it is mentioned. Please do not explain SI units, chemical elements, familiar symbols, etc. Please only define abbreviations specific to the work. For example, TEM = transmission electron microscopy would be worth explaining.
- 3 Introduction: The introduction should put the topic into the larger scientific context by presenting the literature or previous work in the working group. Therefore, it should be about 5-10 pages, show 2-3 figures and 1-2 tables. It is important to mention and explain all literature in the context of which the results will be discussed later. A sub-heading of the introduction is the formulation of the objectives of the paper (1 page).
4. materials & methods: In the materials, all equipment and materials used (chemicals, media, primers, cell lines, strains, plasmids, etc) are listed with manufacturer, location, purity, etc. A tabular presentation is appropriate. In the methods, the experimental procedures used are described briefly but comprehensibly. The length of this section depends on the project performed, 10-15 pages can serve as a guideline.
5. results: The experimental results are presented here. This section usually contains several figures and, if necessary, tables. Care should be taken in the figures to label the axes carefully, etc. Data should be analyzed statistically (means, standard deviations (remember that there must be at least 3 values for calculating standard deviations), significance tests if necessary). Figures have self-explanatory captions; tables have headings. Length 15-20 pages.

6 Discussion: The discussion places the results of the paper in the context of the published literature. The purpose is not to repeat the results, but to discuss them critically in terms of the state of the science. The section again contains numerous references to the literature. Length 4-6 pages.

7. conclusions and outlook: 1 page

8. literature: The bibliography consists of scientific references (i.e. not wikipedia or similar). It will be formatted in the style of Nucleic Acids Research. Other formats are acceptable, but they must be followed throughout. Form errors in more than 10% of all references will automatically lower the grade by one-third!

#### **Literature requirement Nucleic Acids Research:**

Citations should conform to the following examples. Journal names should be abbreviated in the style of Chemical Abstracts. Where the list of Authors is extensive it is acceptable to list the first 10 Authors followed by et al. NOTE THAT FULL TITLES OF JOURNAL ARTICLES MUST BE PROVIDED.

Schmitt,E., Panvert,M., Blanquet,S. and Mechulam,Y. (1995) Transition state stabilization by the 'high' motif of class I aminoacyl-tRNA synthetases: the case of Escherichia coli methionyl-tRNA synthetase. Nucleic Acids Res., 23, 4793-4798.

Huynh,T.V., Young,R.A. and Davies,R.W. (1988) Constructing and screening cDNA libraries in lambdadt10 and lambdadt11. In Glover,D.M. (ed.), DNA Cloning - A Practical Approach. IRL Press, Oxford, Vol. I, pp. 49-78.

Maniatis,T., Fritsch,E.F. and Sambrook,J. (1982) Molecular Cloning: A Laboratory Manual. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY.

(Further details: [https://academic.oup.com/nar/pages/Ms\\_Prep\\_Submission](https://academic.oup.com/nar/pages/Ms_Prep_Submission))

9. affidavit: "I hereby affirm in lieu of an oath that I have independently written the bachelor thesis submitted by me and have used only the aids and sources indicated", place, date, signature.

10. optional: curriculum vitae, acknowledgements.

Note: A list of figures and tables is not necessary.

Thus, the length of the paper should be about 40-50 pages.

#### **Other comments:**

1. Prof. Kurreck supports open science. Therefore, he does not sign any confidentiality statements and does not accept any blocking notes, confidentiality statements or similar in the paper.

2. a list of abbreviations should be included, but lists of figures and tables are not required.

3. furthermore, Prof. Kurreck attaches importance to formalities. These include:

- References must be formatted consistently (see above) and a too high percentage (>10%), incorrectly formatted references will lead to devaluation. In particular, the reference that the bibliographic program (Endnote, Mendeley...) formatted the references incorrectly will not be accepted.

- The number of orthographic and stylistic errors should be minimal, as too many errors distract from the content. A popular error is a singular/plural mix: "The samples are boiled and the gel loaded." Also, put emphasis on the form!

Prof. Dr. Jens Kurreck

Candidate University

First Supervisor

Direct Supervisor

Technical University of Berlin