University of Debrecen

Faculty of Science and Technology

Biochemical Engineering Department

**DIPLOMA THESIS**

**Title of the Thesis**

Name of the author

Fourth Year

Biochemical engineering BSc

Supervisor: Dr…………..

Debrecen

2019

**STATEMENT**

I, the undersigned …………………………………..………………… (Neptun code: ………………) by signing the present statement declare that the thesis entitled

…………………………………………………………………………………………………………

– hereinafter called thesis – is my independent work. In the course of making the thesis I conformed to the rules of Act No. LXXVI of 1999 on Copyright, and the regulations of the University of Debrecen regarding the principles of making a thesis, particularly in respect of the references and citations1.

I declare moreover that, in the course of making the thesis, concerning the independent work **I did not mislead my supervisor**. I did not make use of any forbidden support, and I did not submit the work as a thesis in any other educational institution previously.

By signing the present statement I take notice of the fact that the University of Debrecen has the right to deny the acceptance of the thesis and to take disciplinary action against me if it is demonstrably not my intellectual creation, if any infringement of copyright falls under suspicion, or I have already submitted the thesis to another educational institution.

The denial of the acceptance of the thesis and the disciplinary procedure do not affect other legal consequences (Civil Law, Law of Petty Offence, Criminal Law) caused by the infringement of copyright.

Debrecen, …….. of ………..………, 20….

…………………………………..

Student’s Signature

I, the undersigned supervisor declare that the hereby submitted thesis has been made with my professional leadership and continuous professional consultation with the candidate, and reflects the candidate’s independent work. I have reviewed the thesis and found it adequate to **be defended at the final examination** and to b**e uploaded to the website of the University Library**.

Debrecen, …….. of ………..………, 20….

………………………………………..

(Signature of the Supervisor)

UD CAHS, Department of ………………………………………

List of abbreviations and symbols

A summary list of the markings and indices used, if applicable.

Table of contents

[1 Chapters of the thesis 1](#_Toc17896175)

[1.1 Subchapters of the thesis 1](#_Toc17896176)

[1.1.1 The third level chapters of the thesis 1](#_Toc17896177)

[2 Figures and Tables 2](#_Toc17896178)

[3 References 3](#_Toc17896179)

[4 Introduction 3](#_Toc17896180)

[5 Literature review 3](#_Toc17896181)

[6 Objective 3](#_Toc17896182)

[7 Materials and methods 3](#_Toc17896183)

[8 Results 3](#_Toc17896184)

[9 Discussion 4](#_Toc17896185)

[10 Summary 4](#_Toc17896186)

[11 Acknowledgements 4](#_Toc17896187)

[12 References 4](#_Toc17896188)

[13 Annexes and Appendices 4](#_Toc17896189)

You cannot generate any automatic tables without first using styles effectively throughout your document. Microsoft Word can scan your document and find everything in the Heading 1 style and put that on the first level of your table of contents, put any Heading 2’son the second level of your table of contents, and so on.

If you want an automatic table of contents you need to label all of your chapter titles and front matter headings (e.g. “Dedication” and “Acknowledgements”) in the style Heading 1.  All major headings within your chapters should be labelled Heading 2.  All subheadings should be labelled Heading 3, and so on.

If you have used Heading styles in your document, creating an automatic table of contents is easy.

1. Place your cursor where you want your table of contents to be.
2. On the References Ribbon, in the **Table of Contents Group**, click on the arrow next to the Table of Contents icon, and select *Insert Table of Contents….*
   * Note: If you are using Word 2013, this option is called *Custom Table of Contents*.
3. If you want to change the style of your table of contents (e.g. you want more space between the items on level 1 and level 2 of your table of contents, or you want all your level 1 items to be bold), click on the *Modify* button, select the TOC level you want to change, then click the *Modify*button to do so.
4. If you want to change which headings appear in your table of contents, you can do so by changing the number in the *Show levels:* pulldown.
5. Click *OK* to insert your table of contents.

The table of contents is a snapshot of the headings and page numbers in your document. At any time, you can update it by right-clicking on it and selecting *Update field*.  Notice that once the table of contents is in your document, it will turn gray if you click on it. This indicates that it is getting information from somewhere else (https://guides.lib.umich.edu/c.php?g=283073&p=1886010).

# Chapters of the thesis

The dissertation is a completing of a bioengineering task, which the student can complete in one semester based on his / her studies, studying supplementary literature and supervising him / her. In the thesis the student has to prove that he / she is able to apply the learned knowledge in practice. The student processes the topic recommended by the Faculty or occasionally of his / her own choice and approved by the Head of Department. As a thesis, you may only be assigned a task that can be completed within the timeframe required to complete the task, based on the knowledge gained from the curriculum. The dissertation must be issued to the students no later than in the first week of the last semester. During the preparation of the thesis, the supervisor continuously assists and guides the student. The thesis is evaluated by a specialist with a university degree, both verbally and on the basis of the evaluation criteria. The final thesis is evaluated by the final examination committee.

Following the cover page, the "STATEMENT" and the table of contents should be inserted in the thesis. At the end of the thesis, the references should be clearly and accurately indicated (include the author's last name, title and publisher of the book, and the name of the journal and year of publication). Figures and tables must be followed by a continuous Arabic numeral and a title below the figure or table.

## Subchapters of the thesis

Guides for the main text:

* Font: Times New Roman
* Font size 12
* Line spacing of 1.5
* Page size: A4
* italics (Latin words (*ex situ*, *in situ*), genes, microorganisms, etc.)
* The minimum requirement for the thesis is 20 pages (BSc) except for the title page and table of contents.
* Suggested chapters in case of Literature Review:
  + Cover Page
  + Table of contents
  + Topic (first numbered page)
  + Introduction
  + Discussion of specialized literature (subject-specific unit)
  + Summary
  + Acknowledgement
  + References

### The third level chapters of the thesis

Avoid complex heading systems with more than three levels.

# Figures and Tables

The dissertation should preferably contain original figures and tables. Of course, it is advisable to use computer-generated illustrations. In the case of reproduced figures and tables, only high-quality copies and photographs should be used, with reference to the source (the method of referencing is described in the References chapter).

Figures, tables must be numbered and titled. Continuous numbering is advisable. The figure number should be placed below the figure, followed by the figure title. The table number and the table title are also located below the table. It is essential to refer to figures (Figure 1), tables (Table 1) in the text!



**Figure 1.: The laboratory**

|  |  |  |  |
| --- | --- | --- | --- |
| **Step** | **Temperature** | **Period of time** | **Repetition** |
| Initial denaturation | 95°C | 1 min | 1x |
| Denaturation | 95°C | 1 min | 30 x |
| Annelation | 56°C | 1 min |
| Elongation | 72°C | 0:30 min |
| Final polymerization | 72°C | 5 min | 1x |
| Cooling | 10°C | ∞ | 1x |

**Table 1.: The PCR program used in our experiments**.

# References

During the writing of the thesis, the author may take over ideas from literature sources. In such cases, it is necessary to indicate the source at the end of the sentence (or inside the sentence) containing the thought. We recommend the use of square brackets for source reference, where references are numbered in the order in which they appear in the text. Based on this, the first source gets the number, [1]; the second source is the number two, [2]; and so on. At the end of the thesis, a bibliographic chapter lists the sources used in the order they appear in the text, and strives to list the sources in a uniform format.

**Examples of how to refer with square brackets:**

* Complementary purine and pyrimidine bases are opposite [3].
* However, many ligninolytic fungi such as *Phanerochaete chrysosporium* [61] and *Pleurotus ostreatus* [62] are capable of producing non-ligninolytic and ligninolytic enzymes as well.
* In yeast GPD enzyme was induced more by salt stress, glycerol dehydrogenase was less expressed [32, 39].

# Introduction

The significance of the topic should be briefly outlined. It is advisable to start page numbering here.

# review of the literature

# Objective

The aim of the thesis should be recorded.

# Materials and methods

# Results

Text, tables, diagrams, pictures.

# Discussion

# Summary

# Acknowledgements

# References

1. Hershey, A. D., & Chase, M. (1952). Independent functions of viral protein and nucleic acid in growth of bacteriophage. *The Journal of general physiology*, *36*(1), 39-56.
2. Watson, J. D.; Crick, F. H. (1953). Molecular structure of nucleic acids. *Nature*, *171* (4356), 737-738.
3. Hoopes, L. (2008) Introduction to the gene expression and regulation topic room. *Nature Education*1(1):160

In the case of a web link, the web address and the time of viewing should be given.

# Annexes and Appendices