

## BINDING GUIDELINES FOR WRITING BACHELOR'S/MASTER'S/PHD THESES

A bachelor's/master's (diploma) thesis proves the student's proficiency and the skills he/she has gained in the course of his/her studies, as well as his/her abilities to apply them when solving technical and specialist problems concerning the field of study. A PhD thesis (dissertation) verifies the ability to produce original scientific results; the results should be published mainly in international journals and conference proceedings.

The topics of bachelor's theses are based on the issues the specific department deals with. In a bachelor's thesis a student proves his/her ability to solve a problem assigned to him/her, to manage the technical language, and to work with specialised literature and technical standards. A bachelor's thesis may be prepared in the company where the student undergoes his/her practical training. In the course of the practical training the student applies his/her theoretical knowledge and skills, and acquires practical experience.

The topics of master's and PhD theses are based on the social needs and the plan of research and development activities at the University, Faculty, and specific departments. In a thesis, a student has to endeavour to prove his/her abilities, the essential skills of putting his/her thoughts into words in a technically clear manner and as precisely and adequately as possible, and that he/she has a good knowledge of the specialised literature and technical standards, as well as their application.

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### Arrangement of the textual part of a bachelor's/master's/PhD thesis (hereinafter referred to as a thesis)

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A thesis is hardbound so that individual sheets cannot become loose – a black cover is recommended.

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### Cover and front page

The cover and the inner front page are to be as follows:

|  |                  |
|--|------------------|
| VŠB – Technical University of Ostrava<br>Faculty of Electrical Engineering<br>and Computer Science |                  |
| BACHELOR THESIS  |                  |
| Year   | Name and surname |

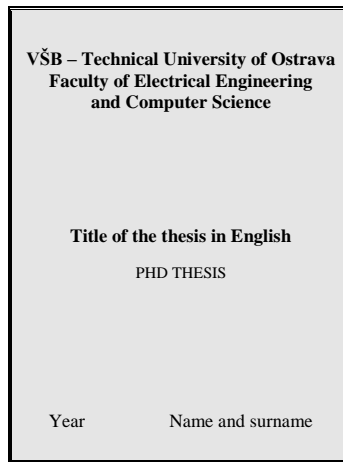
*The cover of a bachelor's thesis*

|  |                  |
|--|------------------|
| VŠB – Technical University of Ostrava<br>Faculty of Electrical Engineering<br>and Computer Science |                  |
| DIPLOMA THESIS   |                  |
| Year   | Name and surname |

*The cover of a master's thesis*

|   |                  |
|---|------------------|
| VŠB – Technical University of Ostrava<br>Faculty of Electrical Engineering<br>and Computer Science<br>Department of . . . |                  |
| Title of the thesis in English<br>Title of the thesis in Czech  |                  |
| Year  | Name and surname |

*The front page  
of a bachelor's/master's thesis*



*The cover and front page of a PhD thesis*

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### **Assignment**

The title of the bachelor's/master's thesis given on the front page has to be identical with the title of the official assignment signed by the Dean of the Faculty and the head of the department. Students are given the assignments for their bachelor's/master's thesis in their specific departments. Besides the name of the author, the assignment of the bachelor's/master's thesis also contains data concerning the assigning authority, the title of the thesis (in both the English and Czech languages), the field of study, a brief characterisation of the issue to be solved and objectives to be reached, the fundamental literature, and the name of the supervisor of the bachelor's/master's thesis. Furthermore, the date of the assignment and the deadline for its submission are given. The supervisor of the bachelor's/master's thesis may also be a person who is not based in VŠB-TU Ostrava.

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### **Declaration made by the student**

A page with the student's declaration concerning the authorship of the thesis comes after the page with assignment details, and is as follows:

*"I hereby declare that this bachelor's/master's thesis was written by myself. I have quoted all the references I have drawn upon."*

This declaration is signed by the student and the date the bachelor's/master's thesis is submitted is added. On this page or a separate page, the student can write an acknowledgement to those who gave him/her professional assistance.

The supervisor of the bachelor's/master's thesis is entitled to check whether the bachelor's/master's thesis was completed by the student on his/her own. Any attempt at fraud will be prosecuted.

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### **Declaration made by the cooperating legal or natural person**

Should the student make use of data provided by a business establishment and the data be deemed sensitive, but possible to disclose, such a fact has to be added to the declaration and given either on the page with the declaration made by the student concerning the authorship or on a separate page. Such a declaration is supplied by the representative of the cooperating legal or natural person. It concerns the approval of the information disclosed in the thesis, and the declaration reads as follows:

*"I hereby agree to the publishing of the bachelor's/master's thesis as per s. 26, ss. 9 of the Study and Examination Regulations for Bachelor's/Master's Degree Programmes at VŠB-Technical University of Ostrava."*

This declaration is signed and dated by a representative of the cooperating legal or natural person.

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### **Abstract and key words**

Another separate page is dedicated to an abstract and key words. Under the heading "Abstract" the content of the thesis is summarised in approximately 10 lines.

After the heading "Key Words" the list of key words is given. A term consisting of more than one word can also be considered a key word.

Both the abstract and key words are given first in the Czech and below also in the English language.

By the deadline for submitting the bachelor's/master's thesis, the student must also submit the text of the abstract and key words in electronic form, in both the Czech and English languages, to the EDISON information system, according to the instructions given by the specific department.

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## **Table of Contents**

The table of contents of the thesis is written on a separate page. It contains all relevant chapters, sub-chapters, and sections of the textual part of the thesis, together with the corresponding page, i.e. the List of Symbols and Abbreviations Used, List of Images and Charts, Introduction, the Thesis (i.e. all chapters and sub-chapters), Conclusion, References, List of the Student's Own Publication Activities and Other Outcomes (applicable to PhD theses only), List of the Student's Self-citations (applicable to PhD theses only), List of Projects (applicable to PhD theses only), and Appendices (if part of a thesis). The table of contents does not include the Assignment, Declaration Made by the Student, Declaration Made by the Cooperating Legal or Natural Person, Abstract, and Key Words.

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## **List of symbols and abbreviations used**

The list of symbols and abbreviations used (if given) replaces explanations in the text. Symbols (abbreviations) are listed in alphabetical order, capital letters before the small letters of the Latin alphabet. Should a symbol stand for a physical quantity, its unit is given as well.

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## **List of images and charts**

The list of images (i.e. pictures, graphs, diagrams, etc.) must contain the number, title, and page number of the image (or page numbers). The list of charts must also contain the number, title, and page number of the chart (or page numbers).

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## **Introduction**

The first chapter of the thesis is headed 'Introduction'. It sets the issue to be solved into a broader context and defines the structure of the thesis in the form of brief contents of individual chapters.

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## **Actual thesis**

In the chapters immediately following the Introduction the objective of the thesis is formulated, the current state of the issues is outlined, and the theoretical and professional characterisations of the issues to be solved, as well as the stages of their solution, are specified.

In the succeeding chapters the student specifies the approach to the issues to be solved. The chapters and sub-chapters have to be logically ordered; their extent should be in correspondence with the importance of the issues being solved. It is advised to insert suitable graphical information (figures, tables, charts, schemes, etc.) into the text to make it clearer.

All mathematical conclusions and calculations have to be presented in detail and arranged in such a way that every specialist could prove their correctness without any difficulties. In all statements, formulae, and values borrowed from practice – if not derived directly in the thesis – the source given in the References has to be cited. Important data or conclusions taken from the literature also have to be quoted from the sources given in the References. Formulae and equations are numbered in parentheses on the right.

In the whole thesis only the legal SI system of measurements must be used. The individual chapters of the thesis are, as a matter of principle, numbered according to the decimal system using Arabic figures. The list of chapters which do not need to be paginated: Introduction, Conclusion, References, List of Student's Own Publication Activities and Other Outcomes, List of Student's Self-citations, List of Projects, Appendices. Actual pages of appendices are numbered separately.

A PhD thesis describes mainly original methods published in the outcomes listed in the List of Student's Own Publication Activities and Other Outcomes that are cited in the text.

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## **Conclusion**

In the final chapter the results achieved are evaluated and the student's own contribution is specified. An evaluation from the standpoint of the further development of the project is also obligatory. The student also mentions his/her experience of the project under study and mentions relationships to other just-completed projects (completed in the framework of other bachelor's/master's theses in the particular academic year or projects being worked on in external departments).

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## **References**

Only sources from the literature cited in the textual part are given in the References. The literature is cited as follows: the author, the title of the book or article (in the original language or Latin transcription from Cyrillic, etc.), volume, edition, publishing house, place and year of issue. According to the ISO 690 standard the list of references is written on a separate page.

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## **List of Student's Own Publication Activities and Other Outcomes**

The list of the student's own publications and other outcomes (patents and applied models) can be found only in a PhD thesis and must be divided into outcomes related to the topic of the thesis and outcomes unrelated to the topic of the thesis. Outcomes related to the topic of the thesis must be cited in the thesis. The description of a publication also includes the type of publication (an article in a journal or conference proceedings) and indexing (Web of Science, SCOPUS) or impact factor or SJR of results

published in journals. The description of a publication must explicitly state whether the article was published/accepted for publication/sent to the review process.

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### List of Student's Self-citations

PhD theses must include a list of the student's self-citations. In the case of non-self-citations of the student's own publications, the list of the student's self-citations include self-cited publications with a list of non-self-citations.

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### List of Projects

In the case of PhD theses, a list of projects the PhD student participated in may be given.

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### Appendices

Appendices contain all graphic works, larger figures (e.g. photos, schemes, drawings, etc.), sizable tables and drawings which are not included in the text as figures or tables, and parts of the thesis of a distinctly descriptive character (e.g. a manual for applying a set-up system, fragments of a source text, comprehensive detailed schemes and detailed descriptions of the parts of the project being solved, etc.).

The list of appendices is given on a separate page. The appendices are numbered using a separate number line (e.g. Roman numerals) or letters. For each appendix in the list the following information are put: the number of the appendix, title and specification. If there is a printed appendix, the specification means the number of pages (if there is a front page in the appendix, the number of pages includes the front page); if drawings are inserted into the thesis pocket the specification means the size of the drawings (for example A3) and, in the case of electronic appendices, the specification includes the text "Appendix in IS EDISON" and the content of the appendices.

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### Requirements for content, extent, typographical layout, and language style

In the thesis, the objective of the thesis must be formulated, the characterisation of the actual state of the issues must be outlined, and the theoretical and professional grounds of the issues to be solved must be specified.

**The thesis must be drawn up in such a way that it can be published in full.** For example, if the thesis contains corporate data, it is necessary to present it in the thesis with a regard to protecting the firm's know-how (this is confirmed by that firm signing the "Declaration of the representative of the cooperating legal or natural person"). For example, the data in the thesis can be anonymised according to the instructions of the thesis supervisor, and more detailed data can be presented only at the thesis defence.

The number of pages is not limited. However, the appropriate length is to be kept to and the importance and the adequacy of the extent of relevant appendices for evaluating the thesis, as well as for pertinent follow-up theses in the future, are to be taken into consideration. The minimum number of pages of a bachelor's thesis is 25 pages (from the Introduction up to the Conclusion), that of a master's thesis is 40 pages, and a PhD thesis is 60 pages. The recommended length of a bachelor's thesis written by a student with practical training is 20 pages.

The text of a bachelor's/master's thesis should be one-sided and printed on A4 paper (in the event of an extensive thesis a double-sided print is permitted). PhD theses are printed in double-sided format. Every first-level chapter and every appendix should start on a new page. All numbered pages of the thesis can show the relevant chapter title of the first level in their headings. All pages are numbered, beginning with the Table of Contents. However, all printed pages from the front page are included in the numerical series (e.g. if the following pages are single-sided – Front Page, Assignment, Declaration made by the student, Declaration made by the cooperating legal or natural person, Abstract and key words – the Table of Contents will begin on page 6). Appendices without the possibility of inserting page numbers must have a front page, which will specify the appendix and its title and page number.

Use only the Latin Modern or Palatino font for LaTeX and the Times Roman font size 11 for Microsoft Word. Choose a text width of 15 to 16 cm and a text depth of 23 to 24 cm (including the header and footer). The recommended margins are specified in Fig. 1. Should the DTP program not define the recommended line spacing, choose the spacing corresponding most closely to 120 per cent of the basic font used. For headlines of various levels choose the type size according to the typographical recommendations (e.g. if using the LaTeX system, follow the setting defined by the report style).

Fig. 1 Recommended text format

|                                 |   | Size     |
|---------------------------------|---|----------|
| <b>Font of the textual body</b> | Times New Roman (for Microsoft Word)              | 11 point |
|                                 | Latin Modern or Palatino (for LaTeX)              | 11 point |
| <b>Page margins</b>             | Top   | 3 cm     |
|                                 | Bottom  | 3 cm     |
|                                 | Left (or inside in mirrored/double-sided print)   | 3 cm     |
|                                 | Right (or outside in mirrored/double-sided print) | 2 cm     |
| <b>Line spacing</b>             |   | 1.2      |

The quality and purity of the language also play an important role when the level of the potential bachelor/engineer/PhD graduate is being evaluated. Adherence to Czech orthography and professional terminology is expected. The use of slang and colloquial expressions is not allowed. Should you have doubts about the translation or transcription of foreign terms, consult the literature available in the University Library. Theses published in the Slovak or English languages are also expected to maintain the linguistic quality corresponding with bachelor's/master's/PhD theses.

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### Typesetting programs of the thesis

Students of the Faculty of Electrical Engineering and Computer Science are expected to use DTP programs when writing their theses (or other projects) which provide for the use of proportional fonts and adherence to the basic typographic rules. Considering the fact that these tools are available at the Faculty, their application is required.

To typeset the text of the thesis, the use of one of these tools is required:

- **LaTeX**
- **Microsoft Word**
- **Open Document Text**

The supervisor of the thesis is authorised to insist on the use of one of the above-mentioned tools, including the relevant version thereof. If not otherwise defined, the student uses the most recently available version of the DTP program commonly used at the Faculty of Electrical Engineering and Computer Science (this refers especially to Microsoft Word users). By agreement with a supervisor, it is possible to choose another DTP program.

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### Components of a thesis completed in printed and electronic form

The bachelor's/master's thesis is submitted in one bound printed version. It is the original of the thesis, into which the original thesis assignment and the originals of the declaration and appendices are enclosed. If the thesis contains electronic appendices, they are inserted in IS EDISON only.

Five copies of a PhD thesis must be submitted.

After agreement with the supervisor, a thesis can be written in English, for example when it is made for a foreign company, in the form of a foreign internship etc. The thesis defence is usually held in the Czech language.

In addition to the printed version, the following parts of a thesis are submitted in electronic form to IS EDISON:

- Abstract and key words in the Czech language.
- Abstract and key words in the English language.
- Actual thesis – the complete thesis is saved in PDF/A format. The maximum size is 20 MB. The **official bachelor's/master's thesis assignment** is an obligatory part of the thesis (it includes the Dean's signature, circular stamp, and the signature of the head of department) as well as the signed student's authorship declaration or the possible signed declaration of the cooperating legal or natural person. The actual thesis thus corresponds fully with the bound printed original. The file name has the format: "year of submission\_student's login\_type of thesis (BT/DT/PHDT)".
- Appendices – they are inserted only if they are not part of the printed bound original, i.e. these appendices are enclosed on CD/DVD together with the printed original. Alternatively, large schemas, drawings etc. are located in the pocket of the thesis. Only one ZIP file is to be inserted into IS EDISON, the size of which should not exceed 30 MB. The file name has the format: "year of submission\_student's login\_type of thesis (BT/DT/PHDT)\_appendix".
- If necessary, the supervisor of the bachelor's/master's thesis can extend this limit up to 500 MB. In the event of insufficient capacity, it is necessary to request an increase in capacity (max. 4 GB, at least one week before the deadline for submitting the thesis, to the secretary of the department, who then submits the application to the Vice-Dean for Studies.
- Presentation of the thesis – applies only to PhD theses.

Further instructions on the uploading of the thesis, including the procedure for correct PDF/A format creation, are available in IS EDISON. After the conversion into PDF/A format, it is necessary to check the correctness of the conversion, for example of formulae, document readability etc.

**Further, the student ticks the box "I agree"** to express his/her consent to the loading of the final thesis in electronic form for the purpose of electronic archiving to make it accessible to authorised users of the information system of VŠB-TU Ostrava. Thereby he/she also confirms that the electronic version of the final work (appendix) is identical to the written version. The uploaded thesis is subsequently sent to the THESIS system for plagiarism checking.

A bachelor's/master's thesis which does not technically conform to the instructions given above may not be accepted as a bachelor's/master's thesis by the supervisor.

**September 17, 2018**

**Prof. Ing. Pavel Brandštetter, CSc., m. p., Dean of the Faculty of Electrical Engineering and Computer Science**