



Diploma thesis seminar | work with specialized text

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Legislative definition of the final theses

Act No. 111/1998 Coll., on higher education institutions

- § 45, paragraph (3)/§ 46, paragraph (3): The degree programme is completed with a final state examination that as a rule includes the defence of a Bachelor thesis/... is the defence of a Diploma thesis.
- § 62, paragraph (1), letter (f): To propose a topic for his/her Bachelor thesis, Master thesis, advanced Master thesis or doctoral thesis.
- § 47b, paragraph (1): Higher education institution **are obliged to make public, at no profit to themselves**, Bachelor, Master, Doctoral and Advanced Master theses that have been defended at their institutions, including the readers' reports and the document on the course of the defence and the results of the defence. The institution will do this by making available a database of these theses. The means of providing access to these theses is stipulated in the internal regulations of the higher education institution.

Act No. 111/1998 Coll., on higher education institutions

- § 47b, paragraph (2): Bachelor's, Master's, Doctoral, and Advanced Masters'theses that have been submitted by the candidates for defence must also be **made available to the public** at least five days before the defence at a place designated for this purpose in the internal regulations of the higher education institution, and where this is not the case, in the department or other place at the higher education institution where the defence of the thesis will be taking place. Any individual is entitled, at his/her own expense, to make extracts, copies or photocopies of theses thus made available.
- § 47b, paragraph (3): **By handing in a thesis**, its author automatically gives assent to its being made public pursuant to the provisions of the Act, irrespective of the result of the defence.

Article 12 of the Study and Examination Regulations of the Technical University of Liberec

- Studies in a Bachelor/Master study programme are completed by the State Final Examination, a part of which is (usually) the defence of Bachelor/Diploma Thesis.
- The Study and Examination Regulations further set rules for assessing Bachelor/Diploma Thesis by its supervisor and by an opponent, rules for the contents of the opponent report, the right of a student to obtain the evaluations and opponent report (**three working days before the defence at the latest**) and rules for filing the Bachelor/Diploma Theses.

Rector's directive TUL No. 5/2018

The final work is an **original**, content-wise professional written work, which the student prepares **independently**, listing all the sources used, own and foreign, and in consultation with the supervisor of the final work and consultant.

Rector's directive TUL No. 5/2018

Difference between bachelor's and diploma thesis

- The **bachelor's thesis** proves that the student is able to study the relevant literature and **critically evaluate it**, implement the objectives of the bachelor's thesis at the appropriate level and write a report on it. The level of the bachelor's thesis corresponds to the knowledge acquired during the bachelor's study.
- The **diploma thesis** proves that the student is able to **independently** solve a given **professional task** related to the field of his master's study, use appropriate professional procedures acquired during the study, **organize information** from primary and secondary sources into a meaningful whole and defend the approach. The diploma thesis corresponds to the knowledge and competencies acquired during the master's study and demonstrates **mastery of professional issues and methodology**.

Dean's Directive EF TUL No. 1/2019

The aim of the final work is to demonstrate the ability to apply theoretical and practical knowledge and skills that the student acquired during the study.

Important terms and deadlines

Terms

- **March** - publication of framework topics of final theses in IS STAG.
- **April** - the student chooses the focus of his/her final thesis from the topics published by the department in IS STAG, registration of the topic: "The student has created a VŠKP background to complete".
- **April - September:** the student can edit in IS STAG and, after consultation with the supervisor, add data: final title in Czech and English – max. 100 characters, syllabus of about 5 points, the most important literature – about 5 sources, of which 1-2 are foreign, name of the consultant - The company name is not required. The student saves the data in IS STAG and moves the assignment to the stage: "The student completed the supplementary material of the VŠKP".

Terms

- **September** - the thesis supervisor checks the data in IS STAG, or data can be modified. The basis for the assignment is either approved ("The student's VŠKP supplementary document approved by the teacher") or returned to the student for completion ("The student's VŠKP supplementary document rejected by the teacher"). In case of return, the student must correct the assignment immediately, otherwise he will be without the assignment and will not be able to submit the work.
- **by 15 October** - the head of the department agrees on the specific assignment of VŠKP in IS STAG.
- **by 31 October** - the dean approves the assignment in IS STAG. The secretariat of the department will complete the validity of the assignment (2 years).

Important tasks till September

- 1 Specify the name of the final thesis** - it is concise (it may not contain the name of the company where the problem is solved, it does not include methods of solution – e.g. analysis).
- 2 Clarify the goal of the final thesis** - what will be solved, how to deal with it, what will be the output.
- 3 Prepare your final work assignment** - about 5 main points (e.g. to process a literary research in the field ..., to analyze ..., to propose measures for improvement ..., to evaluate economically ...).
- 4 Recommend about 5 key sources of literature** - monographs, journal articles including foreign.

Important tasks till September

5. **Recommend a consultant (from a company)** – The name of the company and the position in the company do not need to be stated in the assignment.
6. **Contact the future supervisor in time.**

Formal layout of the final thesis

Important standards

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION, 1997. *ISO 7144:1986 (en), Documentation - Presentation of theses and similar documents*. Online. © 1986. Available at: [ISO 7144:1986\(en\), Documentation — Presentation of theses and similar documents](#) . [cited 2023-05-23]

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION, 1996. *ISO 5966:1982, Documentation -Presentation of scientific and technical reports*. © 1982. **Document no longer available.**

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION, 2001. *ISO 214:1976, Documentation - Abstracts for publications and documentation*. © 1976. Available at: [ISO 214:1976 - Documentation — Abstracts for publications and documentation](#)

Division of the final work

- a) Introductory part;
- b) Main text part;
- c) Attachments;
- d) Final part \neq conclusions

Introductory Part

- a) Front cover and the second page of the cover;
- b) Title page;
- c) Pages with errata (corrections);
- d) Bachelor / diploma thesis assignment;
- e) Declaration;
- f) Annotation and key words in Czech and English;
- g) (Preface);
- h) Contents;
- i) List of illustrations and tables;
- j) List of abbreviations and symbols.

Front Cover

It follows the directive of the rector No.5/2018.

The sample is available on the website:

<https://doc.tul.cz/11368/?sp=1>

When entering production in Polygrafie TUL, it is sufficient to report only the faculty, the type of work and the name of the author. Polygrafie TUL produces boards according to the pattern.

The diagram illustrates the layout of a front cover template with the following elements and dimensions:

- Top Right:** A 30 mm wide rectangular area.
- Top Center:** The text "FACULTY OF SCIENCE, HUMANITIES AND EDUCATION TUL" is centered. A label "faculty brand (full name version)" points to this text.
- Left Margin:** A 30 mm wide vertical margin on the left side.
- Bottom Center:** The text "Bachelor Thesis" is followed by "Technical University of Liberec". A label "thesis type (Inter Bold, 24 b)" points to "Bachelor Thesis". Below this, the text "Mary Somebody" and "2022" are centered. A label "university name 2 empty rows name of the student year of submission (Inter Regular, 18 b)" points to the "Technical University of Liberec" line.
- Bottom Right:** A 30 mm wide rectangular area.

Title page

The form of the title page is generated directly from IS STAG. Each faculty has its visual style. It is presented in the language of the thesis.

The title page needs to be printed in color.

Errata (corrections)

Page of corrections, usually freely inserted behind the title page. The top of the worksheet contains: the title and subtitle of the diploma thesis, full name of the author, place and date of submission.

Example:

Page	Line	Incorrect	Correct
74	12	ecnomic	economic

Anotace

Brief and linguistically condensed information on the topic of the work, its conception and its scientific value. It is part of a bibliographic record

Annotation should include:

- a) Type of document (diploma thesis),
- b) Main topic,
- c) Problem, subject and purpose of work,
- d) Thesis results,
- e) Author's own contribution,
- f) Brief information about the author.

Standard length of the annotation: on average 10 lines.

Preface

It contains the reasons that led to the elaboration of the diploma thesis or research, its subject, objective and purpose, thanks for help, financial support, consultation and discussion with the supervisor and other specialists.

In the preface, the author can emphasize the importance of the work, bring it to context and invite for expert discussion. The preface ends with an indication of the place, date and name of the author of the work (without titles).

It is not a typical part of a diploma or dissertation thesis. (Geršlová, 2009).

Content

It must include the **titles of the main subdivisions of the thesis** and all annexes together with the numbers of their pages

The first information about thesis quality, perfect graphic layout required. The number of levels depends on the extent of the work, the **diploma thesis should have no more than three levels**.

These chapters are not numbered: preface, introduction, conclusion, lists of used literature, attachments, tables and pictures, abbreviations and symbols.

List of illustrations(figures) and tables

All illustrations (usually marked as figures) - i.e. charts, drawings, photographs - and tables must be listed in special lists.

The lists include:

- a) Figure and table number;
- b) Figure or table name (for long names you can shorten to the first sentence that is sufficient for explanation);
- c) The page number on which they can be found.

List of abbreviations and symbols

In the contents, they follow the List of Figures and Tables.

Abbreviation – abbreviated expression. They must be explained when they first occur in the text. **Example:** localization coefficient (further LQ).

Symbols – names of currencies, units, not followed by a dot.

In addition, all abbreviations and symbols should be listed in alphabetical order.

Abbreviations and symbols commonly used are not listed (e.g., etc., ad., CZK, kg...).

Page numbering

There are several ways of paging (footer, header, etc.). At EF TUL, the final theses are printed on both sides. In this case, the page numbers are indicated near the outer margin.

The right, obverse, side must always have an odd number!

Blank pages in double-sided printing, so-called vacates, are also numbered.

Page numbers do not appear on the title page (imaginary pages 1 and 2), assignment pages (3-4), statements (5-6), annotations (7-8) and acknowledgments (9-10) – but are part of the total number of pages. The first page with the indication of the number is therefore the table of contents (pp. 9 and 11 respectively).

Tables

- Each table must have a name, description and a number (e.g. Table 1).
- Descriptive text is displayed above the table with an Arabic numeral.
- The **data source** (source) is listed **below** the table.
- It is recommended that the table is placed close to its first quotation in the text.
- If the table is not listed immediately in the text that discusses it, you should also include the page number on which the table is located.
- The numbering can be continuous (Table 1, Table 2, Table 3 ...) or separate (chapter number + sequence number of table within the chapter, e.g. Table 2.1, Table 2.2 etc.).

Tables – (ongoing)

- The tables in the appendices are marked with an appendix and a number (e.g. Table A1).
- Header and footer must be clearly separated from the other parts of the table.
- Header of the table – contents of columns.
- Caption – description of line contents.
- It is recommended to use the same number of decimal places.
- It is recommended to write labels and data in the table with a letter of 1 point smaller than the main text (e.g. font 11)
- The width of the columns is preferably the same.
- It is desirable to highlight the summary data in bold.

Examples of table captions

Table 5.7: Time spent with containers in individual phases (days)

Table 5.7. Time spent with containers in individual phases (days)

Table 5.7 – Time spent with containers in individual phases (days)

ALTERNATIVES (Note:
use one style at work)

Phase	Time in the system	Waiting time	Service time
Basing	0,0112	0,0008	0,0104
Transshipment	0,0500	0,0357	0,0143
Transport	0,2154	0,0488	0,1666
Unloading	0,0158	0,0019	0,0139
Celkem	0,2924	0,0872	0,2052

Source: Sixta a Žižka (2009, p. 135).

Illustrations (figures)

- They are used to a reasonable extent if they immediately document the interpretation of the issue.
- They are indicated by the abbreviation Fig. and a number, in the same way as tables.
- The text is below the picture.
- Source is also below the picture.
- Illustrations created by the authors themselves are preferred.
- The scanned images must be at 300 dpi resolution.
- Images from the Internet can not usually be used, they have a low resolution (72 dpi).

Example of figure caption

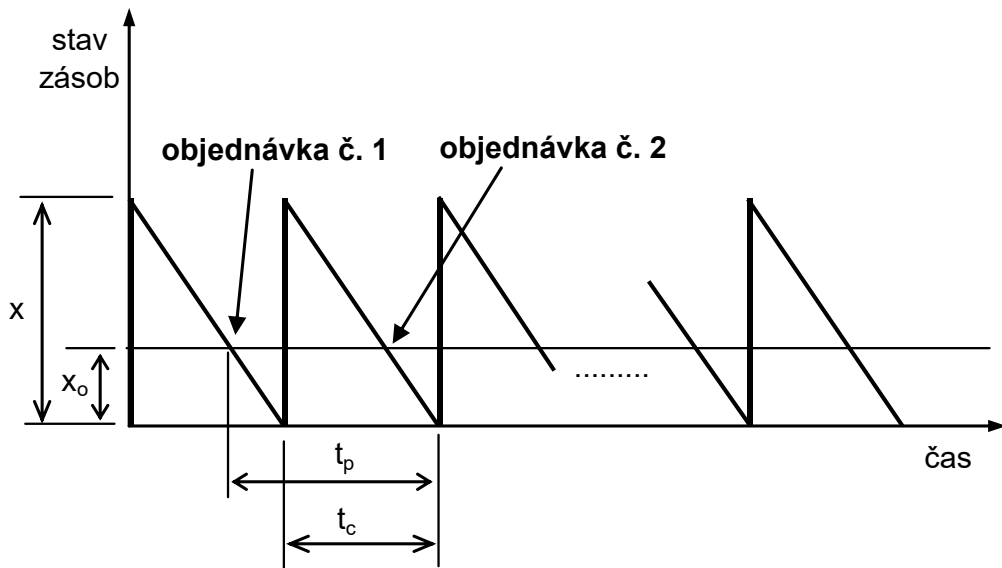


Fig 4.12: Objednávka na cestě

Source: Sixta a Žižka (2009, p. 81).

Equations and formulas

- Except for simple expressions to write them, we use an [equation editor](#).
- Variable are written in *italics*.
- They are aligned to the left edge.
- The surrounding text is separated by a space.
- They are numbered continuously throughout the text or within a section.
- The numbers are enclosed in parentheses () and aligned to the right banner.
- In the text we refer to the equations and formulas, for example, as given in formula (5).

Example of formula description

The function of total expected costs (4.13) for period t consists of three components, the first component expresses the expected storage cost for the situation $x > y$, the second component the size of these costs in the case of $x < y$, and the last component gives the expected cost size due to insufficient stock availability.

$$N_c(x) = c_s \sum_{y=0}^x \left(x - \frac{y}{2} \right) p(y) + c_s \sum_{y=x+1}^{\infty} \frac{x^2}{2y} p(y) + c_z \sum_{y=x+1}^{\infty} \frac{(y-x)^2}{2y} p(y) \quad (4.13)$$

Other rules for writing formulas

- Aligning is allowed **before** the symbol EQUALS or after math symbols of plus, minus, multiplication or division.

$$N_o(5) = N_o(4) \cdot p(0) + N_o(3) \cdot p(1) + N_o(2) \cdot p(2) + N_o(1) \cdot p(3) + N_o(0) \cdot p(4) = 1\ 006 \cdot 0,10 + \\ + 783 \cdot 0,1333 + 430 \cdot 0,2333 + 300 \cdot 0,2667 + 3\ 000 \cdot 0,1667 = \mathbf{885\ ks}$$

- Numerator must be divided from denominator by slash which is as long as the longer of both figures.

$$x = \frac{123\ 456}{23}$$

- In a continuous text, we try to limit fractions to one level, e.g. $\sqrt[3]{(2Qc_p/c_s T)}$.

Text format

Paper – A4 (210 x 297 mm), white, rec. weight 90 gr/m², **printed on both sides** from annotation,

Margins – **25 mm all, 30 mm at the book spine,**

Font – sans-serif, font Inter, font size 11 pt.

Spacing – 1,5.

Highlighting text – *italics* or **bold letters** are recommended. I n t e r l a c e d letters and underlining are not recommended (worsens reading). CAPITAL LETTERS are used in bibliographic citations.

Chapters (sections)

- Each chapter must begin on a new page.
- Chapters are only numbered at the core of work (not including content, introduction, conclusion ...).
- It is recommended to number up to 3 levels using Arabic numerals.
- There is no dot after the last digit.
- There is no dot after the title of the chapter.
- The chapter should contain at least a short text.

Example of numbering chapters

1 First level headline (chapter) – letter size more or less 20 points, vždy na novém listu

Below the headline there is the text. Below the headline there is the text. Below the headline there is the text and below the headline there is the text. Below the headline there is the text. Below the headline there is the and below the headline there is text. Below the headline there is the text. Below the headline there is the text. Below the headline there is the text.

1.1 Second level headline (section) – size more or less 16 points

Below the headline there is the text. Below the headline there is the text. Below the headline there is the text and below the headline there is the text. Below the headline there is the text. Below the headline there is the text, and below the headline there is the text.

1.1.1 Nadpis třetí úrovně (pododdíl) – vel. cca 14 bodů

Below the headline there is the text. Below the headline there is the text, below the headline there is the text. Below the headline there is the text. Below the headline there is the text. Below the headline there is the text.

Formatting of the paragraphs

According to the TUL graphic manual, the text is not aligned to a block, but to the left flag. However, for longer texts it does not look aesthetically pleasing, we recommend aligning it into a block.

There are two basic ways to indent paragraphs:

1. The first line of a new paragraph may be indented by 0.5 cm, then a free line is not left between the paragraphs. An exception was the first line of the paragraph at the beginning of the chapter that was not indented.
2. If the first line of a paragraph is not indented, then one free line is omitted between paragraphs.

The paragraph should be reasonably long.

Examples of intending paragraphs

1 Chapter headline

The first line of the chapter paragraph is generally indented. However, this rule is not being respected. As a rule, this paragraph is also indented.

The first line of the second paragraph should already be indented, usually by about 0.5 cm. The first lines for the other paragraphs under this chapter will also be indented. There is no blank line between paragraphs.

1 Chapter headline

Here is an alternative way to format paragraphs. The first lines of paragraphs are not indented. There is a blank line between paragraphs.

The second paragraph, as we see, is not indented. This style is common in foreign literature and was later promoted in the Czech Republic as well. The traditional way used in the Czech Republic is listed above.

Main text part

Structure of the main text part

- a) Introduction;
- b) Aim of the thesis;
- c) Description of the current situation (literature research);
- d) Solution description;
- e) Original research results;
- f) Evaluation with the emphasis on the author's own contribution;
- g) Conclusions;
- h) List of bibliographical citations;
- i) Bibliography.

Introduction

WHAT research topic was followed.

WHAT on the contrary was not followed (what the author does not deal with).

WHY the topic was chosen (topical issue, necessity).

OVERVIEW of past and present literary research (selection of essential conclusions and topics from literature).

OBJECTIVES of the thesis (planned contribution of the author to the topic).

METHODS of processing.

STRUCTURE of the work is introduced , but not a summary of the headings of the individual chapters.

Objectives of the thesis

Main objective – clear, concise, demanding but achievable. It must include the student's own contribution and his/her achievement to demonstrate the ability to apply theoretical knowledge in solving real problems.

Assessing whether the objective has been achieved is the role of each opponent and the Review Panel (Committee) in the defense.

Principles for the formulation of the aim/objectives of the work

- The aim must be based on the title of the thesis and must contain its basic concepts.
- Objectives must be stated uniformly in all parts of the thesis (abstract, introduction, subchapters, conclusion).
- The main goal can and often must be divided into partial goals (a suitable guideline for structuring the work).
- At the end of each chapter, it is necessary to state which sub-objective was addressed and whether/how it was fulfilled.
- At the end of the thesis, it is necessary to clearly state whether the aim of the work has been met (Ďaďo, 2022).

SMART objectives

- **S (Specific)** – specific, precisely defined.
- **M (Measurable)** – Measurable, numerically expressed, time-determined.
- **A (Accetable)** – acceptable.
- **R (Realistic)** – realistically achievable.
- **T (Trackable)** – with a time-defined course (Ďad'o, 2022).

Appropriate and inappropriate verbs in the formulation of goals

APPROPRIATE VERBS:

To identify, to confront, to define, to assess, to create, to determine, to differentiate, to evaluate, to illustrate, to prove, to identify, to summarize, to test.

INAPPROPRIATE PHRASES:

The aim of the thesis is to bring ... imply... refer... sketch...

We will try ... We would like to ... We intend to use ... We plan to ... We would like to point out the causes ... (Ďaďo, 2022).

Text structure – possible approaches

- a) **Chronologically** – capturing development in time sequence.
- b) **Systematically** – if the aspects and points examined have the same weight.
- c) **Hierarchically** – if results and facts have different levels of materiality.
- d) **Deductively or inductively** - if the hypothesis is the determining factor of the entire work. The deductive breakdown is based on the hypothesis and tries to prove it. On the contrary, the inductive structure tries to derive the thesis and the hypothesis from the obtained materials.
- e) **Cause - consequence** - if the findings are causal.
- f) **Comparative** - individual facts are analyzed and evaluated and their results compared to each other. Looking for similarities and differences - between phenomena and facts.
(Geršlová, 2009).

Methodology

- Methodology = **the procedure** how the individual procedures were implemented, leading to the fulfilment of the goal of the work.
- Provide a detailed description of the solution procedure, including the characteristics of the input data (data source, basic and sample set), the schedule of the solution, the supporting tools used (SW) and methods (e.g. statistical).
- If the solution is more complex, we can illustrate the solution process, for example, with a flowchart.

Literature research

We use primary and secondary sources.

Primary sources – relate directly to a given topic, e.g. monographs, proceedings, professional journals, final papers, etc. **This type is preferred.**

Secondary sources – bring abbreviated abstract - from primary information, e.g. encyclopaedias, monolingual dictionaries, lexicons, bibliographic catalogs, the Internet etc.

ATTENTION! Primary sources \neq primary data

Secondary sources \neq secondary data

How to search literature?

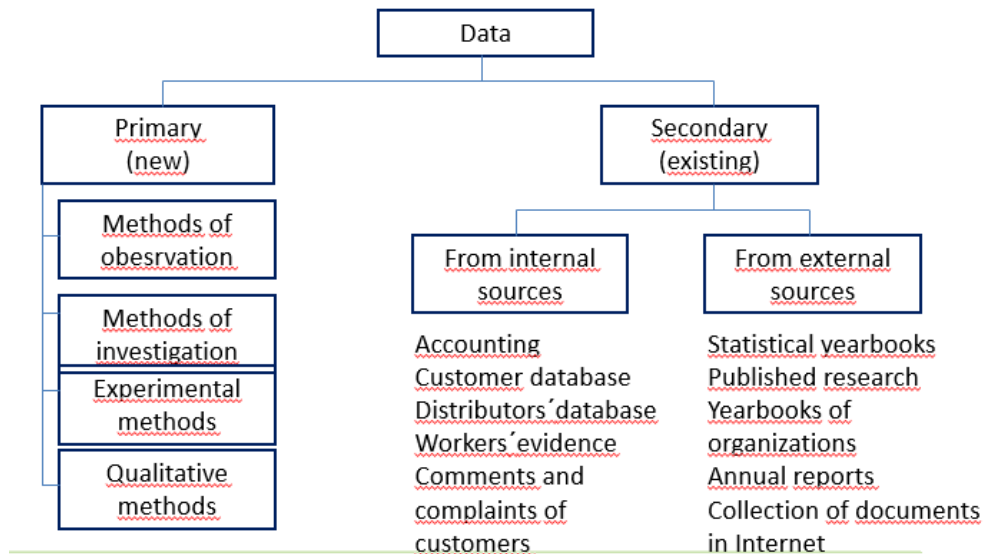
1. We will build a skeleton of the text and write down the **keywords** (in English).
2. We will use **reputable sources of information**, e.g. databases of journals and books in UKN (Science Direct, ProQuest Central), link <https://knihovna.tul.cz/podpora-vedy/database>
3. If possible, we use advanced search (you can enter the type of source – journals, books, open access articles, **full text**, **peer reviewed**, source language, field, etc.).
4. If we receive a large number of results (depending on the combination and uniqueness of your keywords), we need to redefine keywords, types of sources, or limit the time limit.
5. We **read abstracts and classify texts** into potentially usable and unusable.
6. We will read the potentially usable resources and prepare excerpts of the main ideas. In doing so, we confront the opinions of various authors.

Credibility of sources from the Internet?

- Internetové sources are mainly popular among students,
- **BUT** in scientific circles they are considered problematic,
- it is always necessary to assess: **WHO** the author is, **WHAT** institution is behind the author (University, publishing house), whether there are references to **SOURCES** and **LITERATURE**,
- to prefer printed books and journals, or their electronic mutations in renowned databases,
- the Internet can be paradoxically the source of stress (excessive number of found results).

Data collection

- Data collection comes **after the literature search**.



Source: Liška (2005)

General principles of writing a specialized text.

- Descriptive, explanatory and reflection style procedure.
- **Tight phrases** are used – attribute and a noun, passive voice (e.g. is discussed).
- Relative clauses are replaced by verbal adjectives and nouns (e.g. formed, expressing...).
- Secondary prepositions are used, e.g. in consequence (instead of because), in order to...
- The core of the statement is at the end of the announcement sentence.

General principles of academic writing

- Sentences and complex sentences tend to be more complex, often containing **parentheses for clarification and footnotes**,
- Mostly, **1st person singular is not used**.
- **Impersonal expressions** prevail – e.g. It is supposed, it is assumed, the attention is paid to...
- Text contains **citations** and bibliographical data.
- The selected style must be kept throughout the whole work.

Direct vs. indirect citations

- **Direct citations (quotations)** - exact copy of the original, including punctuation and in the **original language**, is quoted (usually in italics) followed by a reference to the source. **No editing allowed** in direct quote. If the author wants to add or even highlight something, he must indicate that it is a comment by the author. For foreign-language texts, the author should provide a translation (into a language of the thesis). The amount of direct quotations should not exceed 5% - 10% of the text.
- **Reference citations (indirect quotations)** - rewriting of somebody else's thought **in its own words**, paraphrasing the text. Nevertheless, the **source must be listed according to the bibliographic principles**.

Examples

QUOTATIONS: Zelenka and Podaras (2021, p. 67) state: „ *Data and information are a crucial part of the everyday routines of most companies.* ”

REFERENCE CITATIONS: Zelenka and Podaras (2021), mention that data and information play an important role in implementing routine activities in the majority of companies.

Frequent mistakes when citing

- **Non-citing the works** which the author used – plagiarism.
- **Citing the works that the author did not use** in order to increase the number of literature used. Each title must be cited in the text.
- **Autocitation** – citation of author's own work that is not related to the current work.
- **Inaccurate and incomplete quotations** making it impossible to identify the quoted work, a frequent problem with electronic resources.
- **Wrong processing** of non-compliant quotes.

(VUT, 2007).

Secondary citations

- This is a citation of a source taken from a work other than the original.
- Secondary citations **are not recommended**.
- We should always try to **find the original source**.
- If, in exceptional cases, it is not possible to use the original source, it must be apparent that this is a secondary citation.
- **Only a secondary source is mentioned in the bibliography.**

EXAMPLE: The first model of data envelope analysis was formulated in 1978 by Charnes, Cooper and Rhodes, and according to the initial scripts of their names, this model is referred to as the CCR model (Charnes, Cooper and Rhodes, 1978, cited by Dlouhý, Jablonský and Zýková, 2018).

How to make citing resources more simple?

- To manage citations and insert them into the text, it is recommended to use one of the citation managers (eg. [Zotero](#), [Citace PRO](#)).
- New citation styles are available for Zotero, link: <https://github.com/zizienova/zoteroTUL2022/releases/tag/v1.05> Simply click on the CSL file to download the file to your computer. Then double-click on the downloaded file and it will install in Zotero. In Zotero, select the **TUL ISO-690:2022:AD** style.
- Citation managers allow you to create bibliographic references according to the selected style, automate work with citations, insert citations into the text through the supplement, reformat citations when the citation style changes, create a list of used literature, share sources with colleagues, etc.

Placement of citations in the text

- The text must show **where the quoted text begins and ends**.
- Simple references at the end of paragraphs are inappropriate.
- It is appropriate to introduce the citation: As stated by Novák (2022) ...; As the study by Novák and Novotný (2021) ...; In contrast, New (2023) states ...; In contrast, Novák and Novotný (2020) state ...; Novák and Novotný (2019) believe ...; The results of Novák's research (2015) show that ...

The use of artificial intelligence tools in the final thesis

- The use of artificial intelligence when writing a thesis **is not prohibited**, full responsibility lies with the student.
- Artificial intelligence is not considered the author, it is not cited as such. However, **the student must indicate the use of artificial intelligence in the work**, it is recommended in the introduction or in the methodological part.
- Artificial intelligence can provide **misleading** or even **completely incorrect formulations**.

Conclusions

- An important part of the university qualification thesis.
- The recommended range is 1.5 to 2.5 pages.
- It contains an overall evaluation of the work and a brief recapitulation:
 - What was the subject of the work
 - Results and conclusions from the analyses..
 - Benefits of solutions and recommendations for practice (theory).
- The **limits of the solution**, if any, should also be indicated in the conclusion.
- It may include suggestions for further research in the field. (Ďaďo, 2022).

List of used literature

- Bibliographic records must comply with ČSN ISO 690:2022 (new edition from the end of 2022).
- The list of used literature should be divided into two parts:
- **Citations** – here are all directly and indirectly cited documents to which the text of the work refers.
- **Bibliography** – other supplementary documents and literature are presented here.

Appendices

In the appendices we provide other additional information that would be distracting in the main text and is not necessary for understanding the main text.

Numbering the appendices draws on the main text. Each appendix must begin on a new page.

Appendices are marked by capital letters, they must contain the word Appendix, e.g. Appendix A, Appendix B, Appendix C etc.

If the appendix is divided into sections, these must be marked with a letter of the appendix, e.g. Chapter A2.

Similarly, tables and figures are marked, for example Table A1, Table A2, Fig. B3, Fig. C6 etc.

Citations and bibliographic references

Methods of literature citing

HOW to write citations in the text?

HOW to write the citation sources in the list of references?

1. **Using name and date** (the co-called Harvard style) – from academic year 2017/18 style used at the EF TUL.
2. **Citing using continuous remarks.**
3. **Citing using numerical links.**

Citing using Harvard system

In the text of the document, the parenthesis contains the **author's name** (if not known, use the abbreviation "Anon") and the **year of publication** and **paging** (always in the case of direct citing). Example: (Anon., 2016)

For documents with 3 or more authors, only the surname of the first author is given with the addition of et al. or so. If there are several documents of the same author and the year of release, they are distinguished by **lower case letters** (a, b, c, d ...).

If we refer to several creators, we separate the citations with a semicolon, e.g. (Novák and Novotný, 2021; Žižka, 2022).

The bibliographic data in the final list is arranged alphabetically according to the surname of the authors and at the second level according to the year of issue, or in small letters in alphabetical order.

Example

Text with citation:

As Zelenka and Podaras (2021, p. 67) state, "*Data and information are a crucial part of the everyday routines of most companies.*" The R-Package is a free software tool that has been successfully adopted for upgrading business intelligence using decision trees (Atanasijevic & Milosevic, 2020). Furthermore, as Podaras (2018) states, the tool can ideally support machine learning predictive decisions in business continuity management.

List of bibliographic records:

ZELENKA, Martin and Athanasios PODARAS, 2021. Increasing the Effectivity of Business Intelligence Tools via Amplified Data Knowledge. *Studies in Informatics and Control*, vol. 30, No. 2, pp. 67-77. ISSN 1220-1766, DOI: <https://doi.org/10.24846/v30i2y202106>

ATANASIJEVIC, Jordan and Danijela MILOSEVIC, (2020). Upgrading the Business Intelligence System by Implementing the Decision Tree Model in the R Software Package. *Studies in Informatics and Control*, vol. 29, no. 2, pp. 243-254. DOI: 10.24846/v29i2y202009

PODARAS, A., 2018. Measuring the Accuracy Levels Regarding the Dual Business Function Criticality Classifier. *IEEE Access*, Vol. 6, pp. 41598-41606. ISSN 2169-3536, DOI: [10.1109/ACCESS.2018.2860976](https://doi.org/10.1109/ACCESS.2018.2860976)

Structuring of bibliographic records

The basic document is a norm:

ISO 690:2022 *.Information and documentation - Guidelines for bibliographic references and citations to information resources*. Praha: Úřad pro technickou normalizaci, metrologii a státní zkušebnictví, 2022.

The given norm contains compulsory and **optional data**.

There have been several changes compared to the previous edition from 2011.

Overview of the main changes in the new ISO 690:2022 standard

- The first five authors are always mentioned in the reference.
- If the Internet link leads directly to the article, it shall be italicized. (For printed documents, unchanged – the name of the journal continues to be highlighted in italics).
- Abbreviated names can be used for journals, supplemented by ISSN.
- Permanent **identifiers** (typically DOIs) must be **provided as a link**.
- The pages are presented in the language in which the document is written (i.e. even in the case of a journal in English, we use the abbreviation "s." in the Czech text for the website, in the English text the abbreviation "pp.").
- The standard no longer permits abbreviated writing of grades and numbers such as ~~53(6): 23-38~~.
- The document type (Online) is indicated after the title, but is not enclosed in square brackets.
- The date of quotation is now written after the reference and is preceded by the full word "cited".

Source: FIRSTOVÁ, Zdeňka. Citation standard ČSN ISO 690:2022 – Bibliographic citations. The most important changes brought by ISO 690:2022. Online. 2023. In: *University Library of the University of West Bohemia in Pilsen*. Available at: <https://citace.zcu.cz/zmeny2022.html>.

[cited 2023-05-22].

Models for bibliographic records

New handbook, ZIZIENOVÁ, Marta; VRABCOVÁ, Pavla; KOPRNICKÝ, Jan and Luboš BĚHÁLEK. *Citation methodology*. 3., revised ed. Liberec: Technical University of Liberec, 2023. ISBN ISBN 978-80-7494-658-5. (the pdf document will be available at TUL Dspace repository on July 2023)

Note: Due to the use of Harvard style in the text of the final theses, the following reference patterns are modified compared to the manual so that the year of publication follows immediately after the authors of the documents.

Specialized book (monograph)

SURNAME, Name, YEAR. *Title: subtitle*. Edition. Series title, number in series. Location: Publisher. Document identifier. Access.

PAVELKOVÁ, Drahomíra et al., 2009. *Klasy a jejich vliv na výkonnost firem*. Praha: GRADA Publishing. ISBN 978-80-247-2689-2.

(the first issue number is not given; Only the first author is mentioned followed by the abbreviation "et al.")

CHASE, Richard B. and Nicholas J. AQUILANO, 1995. *Production and Operations Management: Manufacturing Services*. 7th ed. Chicago: IRWIN. ISBN 0-256-14023-5.

(monograph with fewer than five authors – all names are given. The name of the first author is given inversely and the name of the last author is separated by the conjunction "and"; The edition is given in the language of the source)

Specialized book (monograph) – other examples

JÁČ, Ivan; Petra RYDVALOVÁ and Miroslav ŽIŽKA, 2005. *Inovace v malém a středním podnikání*. Brno: Computer Press. ISBN 80-251-0853-8.

KOCOUREK, Aleš (ed.), 2009. *Proceedings of the 9th International Conference Liberec Economic Forum 2009*. Liberec: Technical University of Liberec. ISBN 978-80-7372-523-5.

(Proceedings as a whole with editor)

ŠUBRT, Tomáš; Jan BARTOŠKA; Helena BROŽOVÁ; Ludmila DÖRNEOVÁ, Milan HOUŠKA et al., 2019. *Ekonomicko-statistické metody*. 3., Modified and extended ed. Plzeň: Vydavatelství a nakladatelství Aleš Čeněk. ISBN 978-80-7380-762-7.

(A book with six or more authors)

Specialized book (monograph) – other examples

OFFICE OF THE GOVERNMENT OF THE CZECH REPUBLIC, 2009. *Analýza stavu výzkumu, vývoje a inovací v České republice a jejich srovnání se zahraničím v roce 2009.*

PDF; online. Prague: Office of the Government of the Czech Republic. ISBN 978-80-7440-005-6. Available at:

http://www.vyzkum.cz/storage/att/6638B5A9A8C5259EE7F8BB2BF4CC6E2C/Analyza_2009.pdf

(e-book with a corporate author)

Book chapter

Chapter Authors, YEAR. Title: subtitle of the chapter. In: The Authors of the Book. Title: subtitle of the book, page range. Edition (Vydání). Edition (Edice). Edition, number in edition. Location: Publisher. Document identifier. Access.

SKÁLA, Marek and Petra RYDVALOVÁ, 2021. Evolving Insight of Localization Theories into Cluster Existence. In: ZIZKA Miroslav and Petra RYDVALOVÁ (ed.). *Innovation and Performance Drivers of Business Clusters: An Empirical Study*, pp. 7–24. Science, Technology and Innovation Studies. Cham: Springer, 2021. ISBN 978-3-030-79906-9, ISSN 2570-1509.

(a chapter in a printed book with editors and the title of the edition)

Paper in conference proceedings

Authors of the article, YEAR. Title: subtitle of the post. In: Authors of the proceedings (ed.). Title: subtitle of the proceedings, page range. Edition. Series, number in series. Location: Publisher. Document identifier. Access.

ŠTICHHAUEROVÁ, Eva and Miroslav ŽIŽKA, 2020. A Comparison of the Trends in the Factors of Financial Performance of Companies in Czech Clusters. In: NÁLEPOVÁ, Veronika and Natalie UHROVÁ (ed.). *Proceedings of the International Scientific Conference ECONOMIC AND SOCIAL POLICY*, pp. 424–442. Ostrava: Vysoká škola PRIGO. ISBN 978-80-87291-27-6.

Article in a Journal

SURNAME, First name. YEAR. Article title: article subtitle. *Journal title: journal subtitle*, volume, issue (No), page range. Document identifier. Access.

KRAFTOVÁ, Ivana a Jiří KRAFT, 2009. Povzbudivý růst ekonomiky regionů: cílená regulace versus tržní autoregulace? *Politická ekonomie*, roč. 57, č. 6, pp. 769–791. ISSN 0032-3233.

~~KRAFTOVÁ, Ivana a Jiří KRAFT, 2009. Povzbudivý růst ekonomiky regionů: cílená regulace versus tržní autoregulace? *Politická ekonomie*, 57(6): 769-791. ISSN 0032-3233.~~
(Abbreviated notation is no longer possible for a new edition of the standard)

Article in a Journal – Other examples

BAUEROVÁ, Radka; Hana, STARZYCZNÁ and Šárka ZAPLETALOVÁ, 2023. Who Are Online Grocery Shoppers? *E+M Ekonomie a Management*, vol. 26, no. 1, pp. 186–205.

ISSN 1212-3609. Available at: <https://doi.org/10.15240/tul/001/2023-1-011>

(if the printed version of the article also contains a DOI, it is quoted in the printed article in the form of a hyperlink)

Qualification work

SURNAME, First Name, YEAR. *Title of thesis*. Type of qualification work. Place of defence:
Name of the higher education institution, name of the faculty. Place: Name of the library, call
number.

RAHMANOVÁ, Šárka, 2007. *Factors of competitiveness of Czech retail companies*.
Dissertation thesis (Ph.D.). Liberec: Technical University of Liberec, Faculty of Economics.
Location: University Library of the Technical University of Liberec, call number U 533 H.
(unpublished dissertation, call number can be found in the library catalogue)

Printed law

STATE, YEAR. The number and title of the law. In: *Title of the Collection of Laws*, amount, range of pages. DOI or ISBN or ISSN. Access.

Czech Republic, 2009. Law No 107 of 26 March 2009 on a state bond programme to provide financial assistance to the Government of the Republic of Latvia to address the stabilisation of the economy in 2009 and 2010. In: *Collection of Laws of the Czech Republic*, issue 33, p. 1238. ISSN 1211-1244. Also available from: <http://www.mvcr.cz/soubor/sb033-09-pdf.aspx>

Printed standard

STANDARDS ORGANISATION. YEAR. Standard designation, *Title of standard*. Edition.
Notes.

CZECH OFFICE FOR STANDARDS, METROLOGY AND TESTING (ÚNMZ), 2022. ISO 690:2022,
*Information and documentation — Rules for bibliographic references and citations of
information sources*.

Electronic book (e-book)

Authors (Creators), YEAR. *Title: subtitle*. Format; type of medium. Edition. Series, number in series. Location (City): Publisher, date of edition, date of update. Document identifier. Availability. Access.

ZIZKA, Miroslav and Petra RYDVALOVÁ (ed.), 2021. *Innovation and Performance Drivers of Business Clusters: An Empirical Study*. PDF; online. Science, Technology and Innovation Studies. Cham: Springer, 31. 10. 2021. ISBN 978-3-030-79907-6, ISSN 2570-1517. Available at: <https://doi.org/10.1007/978-3-030-79907-6>.

(ATTENTION!!!, the e-book has a different ISBN than the printed book)

CZECH STATISTICAL OFFICE, 2022. *Statistická ročenka České republiky – 2022*. PDF; online. Prague: Czech Statistical Office, 28.11.2022. ISBN 978-80-250-3282-4. Available at: <https://www.czso.cz/csu/czso/statisticka-rocenka-ceske-republiky-2022>.

Chapter in an electronic book (proceedings)

Chapter authors (creators), YEAR. Chapter title: chapter sub-title. Format; type of medium. In: Book creators. *Book title: book sub-title*, pages range. Edition. Series, number in series. Location (City): Publisher, publication (edition) date, date of update. Document identifier. Availability. Access.

BALCO, Peter; Peter BAJZÍK and Michal GALLO, 2021. The Success of SMART City Projects in Regions leads through SMART Univesities. PDF; online. In: ANTLOVÁ, Klára and Tereza SEMERÁDOVÁ (ed.). *Proceedings of the 15th International Conference Liberec Economics Forum 2021*, pp. 13–20. Liberec: Technical University of Liberec, 13. 9. 2021. ISBN 978-80-7494-578-6. Available at: https://drive.google.com/file/d/1FNzIs_EVrS3jV5zH6gK-9ibEuqMudUs/view.

Electronic article

Article creators (authors), YEAR. Title of the article: sub-title of the article. Format; medium type. *Journal title: journal sub-title*, volume, issue (no), pages range. Document identifier. Availability. Access.

KOČANOVÁ, Denisa; Viliam KOVÁČ; Vitaliy SERZHANOV and Ján BULECA, 2023. Differences and Similarities in Patterns of Ageing Society in the European Union. Online. *E+M Ekonomie a Management*, vol. 26, no. 1, pp. 45–64. ISSN 2336-5064. Available at: <https://doi.org/10.15240/tul/001/2023-1-003>.
(ATTENTION!!! The ISSN of the electronic version is different from the printed version ISSN)

Web page

Authors of the website, YEAR. The name of the Web page. Format; type of medium. Editions and versions. Update or edition date. In: *Site name*. Identifier. Archive location. The date and time of archiving. If the archived version is not available, then Availability. [Date cited].

TECHNICAL UNIVERSITY OF LIBEREC, 2023. *About Journal – Professional focus*. Online. © 2023. In: *E&M Economics and Management*. Available at: <https://www.ekonomie-management.cz/odborne-zamereni/>. [cited 2023-05-23].

TOLL, Peter, 2023. The future of Australian Agribusiness. Online. In: *BDO Australia*. Available at: <https://www.bdo.com.au/en-au/insights/food-agribusiness/the-future-of-australian-agribusiness> . [cited 2023-05-22].

Typographic rules and common typographical errors

Two full stops in a row

If two full stops occur consecutively in a reference (e.g. when using et al. or ed. or other abbreviations), only one full stop is always written.

Correct Approach

RIES, Andrew; Patricia BULLOCK; William LARSEN; Trina LIMBERG; Roseann MYERS **et al.** *Shortness of Breath: A Guide to Better Living and Breathing*. **6th ed.** St. Louis: Mosby, 2001. ISBN 0-323-01064-4.

Erroneous Way

RIES, Andrew; Patricia BULLOCK; William LARSEN; Trina LIMBERG; Roseann MYERS **et al..** *Shortness of Breath: A Guide to Better Living and Breathing*. **6th ed..** St. Louis: Mosby, 2001. ISBN 0-323-01064-4.

Line-breaking points

- If an ISBN, ISSN, or DOI number appears at the end of a line, it should not be split into two lines. Instead, nonbreaking hyphens and nonbreaking spaces are used.
- Similarly, it is not recommended to split numerals, dates or copyright symbol © followed by the year at the end of a line; again, a nonbreaking hyphen or nonbreaking space should be used.
- Long URLs can be wrapped after a period, colon, single or double slash, hyphen and other non-alphabetic graphic characters (i.e. after . or : or / or // or - etc.).

Line-breaking points

Correct Approach

BRYCHTA, Karel and Václav RYMEŠ. Dobrovolná likvidace společnosti s ručením omezeným — část II. *Daně a právo v praxi*, vol. 27 (2022), no. 11, pp. 23–30. ISSN 1211-7293.

NEŠETŘIL, Kamil. *Úvod do inženýrství. Blok 12, Kritické myšlení*. Lecture. Liberec: Fakulta mechatroniky, informatiky a mezioborových studií TUL, 2022-12-22.

PALEY, Nina (director). *Síta zpívá blues*. Film; online. Uploaded by: Tarak. © 2008. ISAN 0000-0004-FA53-0000-F-0000-0000-T. Available at: Youtube (distributor), <https://youtu.be/Pw33zQ2ChrA>.

UNIVERZITA MAXE BRODA V LIBERCI. *Nejlepší univerzita pro celkem 10 000 studentů*. Website. 2023. Archived copy available from: Internet Archive (distributor), <https://web.archivefalse.org/web/202303120754570033/https://www.kdmaxbrod/kgsklknkgk.cz/>. [archived 2023-03-12]. [accessed 2023-03-14].

Line-breaking points

Erroneous Way

BRYCHTA, Karel and Václav RYMEŠ. Dobrovolná likvidace společnosti s ručením omezeným — část II. *Daně a právo v praxi*, vol. 27 (2022), no. 11, pp. 23–30. ISSN 1211-7293.

NEŠETRIL, Kamil. *Úvod do inženýrství. Blok 12, Kritické myšlení*. Přednáška. Liberec: Fakulta mechatroniky, informatiky a mezioborových studií TUL, 2022-12-22.

PALEY, Nina (director). *Síta zpívá blues*. Film; online. Uploaded by: Tarak. © 2008. ISAN 0000-0004-FA53-0000-F-0000-0000-T. Available at: Youtube (distributor), <https://youtu.be/Pw33zQ2ChrA>.

UNIVERZITA MAXE BRODA V LIBERCI. *Nejlepší univerzita pro celkem 10 000 studentů*. Website. 2023. Archived copy available from: Internet Archive (distributor), <https://web.archivefalse.org/web/202303120754570033/https://www.kdmaxbrod/kgsklknkgk.cz> [archived 2023-03-12]. [accessed 2023-03-14].

Academic degrees and ranks

- **The following academic titles are written in capital letters and in front of the name:** Bc., BcA., Ing., Ing. arch., MUDr., MDDr., MVDr., Mgr., MgA., Dr., JUDr., PhDr., RNDr., PharmDr., ThLic., ThDr., PaedDr.
- **Academic titles and scientific degrees are written in capital letters and after the name:** Ph.D., PhD., Th.D., CSc., DrSc., as well as an honorary doctorate dr. h. c., a scientific degree of the Academy of Sciences of the Czech Republic DSc., a managerial MBA degree, a certified specialist of DiS.
- **The scientific and pedagogical ranks of associate professor and professor are written in lowercase letters and in front of the name:** doc., prof.

LINKS FOR SPELLING AND NUMBERS

1. To check spelling:

You may refer to the Merriam Webster free online dictionary, <https://www.merriam-webster.com/>

2. To write numbers:

- a) Expressed in words, <https://apastyle.apa.org/style-grammar-guidelines/numbers/words>
- b) Expressed in numerals, <https://apastyle.apa.org/style-grammar-guidelines/numbers/numerals>

REMARK: Because HARVARD style does not include specific grammar rules you may follow the APA (American Psychological Association) as a reference for writing numbers correctly.

Presentation of the final thesis before committee

Structure of performances

- **Introduction** (10% of the time)
- **Self-communication** (80% of the time)
- **Conclusion** (10% of the time)
- Presentation length (8 to 10 min.).

Introductory remarks

- Addressing with an appropriate degree of courtesy.
- A brief introduction of the topic and outline of your speech.
- **The first words (about 90 seconds) form the relationship of the audience (committee members) to the lecturer!**
- We maintain eye contact with the listeners, we only look into the printed materials.
- We do not read, rather comment.

Core of the performance

- It is not possible to put across everything, it is necessary to capture the essence of the work.
- We will describe the solution procedure and the main results.
- We will support ideas with arguments.
- We will only point out more complex connections and details and refer to a possible discussion.
- We avoid long and undeveloped sentences, hard-to-pronounce words, breathing words and cotton wool.
- We continuously monitor the reactions of listeners.
- We try to keep roughly the same pace of speech, we do not speed up or slow down towards the end of the performance!

End of the speech - Conclusions

- It must be **concise, clear and striking**.
- We will briefly summarize the main findings and results of our work.
- Keep in mind that the attention of listeners increases again at the end.
- We will recall facts that we did not mention in the speech.
- We will outline other possible issues to be addressed in the future.
- We thank the listeners for their attention.
- We will politely initiate a discussion.

Preparation of the presentation

- We read the text and decide on the form of recitation (freely, a combination of reading and free speech, ~~reading~~, declamation).
- We will prepare a simple auxiliary text.
- We will try the presentation out loud with a watch in hand.
- We will prepare the recitation for 80% of the set time.
- We will prepare alternatives to interpretation in case we get into time pressure.
- If we are asked to end the presentation, it is necessary to close the topic quickly and not try to speed up the pace of speech.

List of used literature

CZECH STANDARDS INSTITUTE, 1997. ISO 7144:1986, *Documentation – Formal layout of dissertations and similar documents*.

ĎAĎO, Jaroslav, 2022. *Jako napísať a úspešne obhájiť záverečnú prácu (alebo jako zjesť slona)*. Ružomberok: Ing. Miroslav Mračko – EPOS. ISBN 978-80-562-0359-0.

FIRSTOVÁ, Zdeňka, 2023. Citační norma ČSN ISO 690:2022 – Bibliografické citace. Nejdůležitější změny, které přináší ISO 690:2022. Online. In: *Univerzitní knihovna Západočeské univerzity v Plzni*. Dostupné z: <https://citace.zcu.cz/zmeny2022.html>. [cited 2023-05-22].

GERŠLOVÁ, Jana, 2009. *Vádemékum vědecké a odborné práce*. Prague: Professional Publishing. ISBN 978-80-7431-002-7.

LIŠKA, Václav, 2005. *DOCTORANDUS (průvodce budoucích Ph.D.)*. 2nd ed. Prague: Professional Publishing. ISBN 80-86419-93-2.

TICHÁ, Michaela et al., 2013. *Průvodce psáním závěrečných prací (nejenom pro ekonomy)*. Ostrava: Institut vzdělávání SOKRATES, 2013. ISBN 978-80-86572-77-2. Ostrava: SOKRATES Institute of Education

CZECH OFFICE FOR STANDARDS, METROLOGY AND TESTING (ÚNMZ), 2022. ISO 690:2022, *Information and documentation – Rules for bibliographic references and citations of information sources*.

BRNO UNIVERSITY OF TECHNOLOGY, 2007. *Právní a etické aspekty práce s informacemi (Citování)*. PDF; online. Brno: Libraries of Brno University of Technology Available from: http://w18.fme.vutbr.cz/studium/zavprace/etika/kapitola_8_b.pdf

ZIZIENOVÁ, Marta, VRABCOVÁ, Pavla, KOPRNICKÝ, Jan and Luboš BĚHÁLEK, 2023. *Citation Guidelines*. 3., revised ed. Liberec: Technical University of Liberec. ISBN 978-80-7494-658-5. Available at: <https://dspace.tul.cz/handle/15240/169179>



Thank you for your attention

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