

Dean's Regulation No. 01/2020
Methodological Guidelines for writing Bachelor Thesis at
the Faculty of Environmental Sciences

Article 1
Introductory provisions

- (1) The Methodological Guidelines for writing Bachelor Thesis at the Faculty of Environmental Sciences are binding for all students of the bachelor study programmes of FES in all forms of study.
- (2) Students are obliged to get acquainted with the Methodological Guidelines and to respect them and comply with them during preparing and writing the Bachelor Thesis.

Article 2
Closing provisions

- (1) Dean's Regulation No. 2/2017 is hereby cancelled.
- (2) The Methodological Guidelines come into force and effect on the day of approval of the Academic Senate of FES.

Approved by the Academic Senate of FES on 19 February 2020

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Dean

CZECH UNIVERSITY OF LIFE SCIENCES IN PRAGUE
FACULTY OF ENVIRONMENTAL SCIENCES



**METHODOLOGICAL GUIDELINES FOR WRITING
A BACHELOR THESIS AT FES**

Table of Contents

1. Selecting bachelor thesis topic	1
2. Bachelor thesis assignment preparation.....	2
3. Guidelines for writing a bachelor thesis.....	2
3.1 Formal requirements	2
3.2 Required parts of BT.....	4
3.2.1 Binder and cover sheet	5
3.2.2 Assignment of the bachelor thesis	5
3.2.3 BT author's statement.....	5
3.2.4 Abstract, key words.....	5
3.2.5 BT Table of Contents (with references to the page numbers)	6
3.2.6 Introduction.....	6
3.2.7 Objectives of the thesis	6
3.2.8 Methodology.....	6
3.2.9 Results	6
3.2.10 Discussion	7
3.2.11 Conclusion and contribution of the thesis	7
3.2.12 Bibliography	7
3.2.13 Appendices	7
3.3 Optional parts of the BT	8
4. Citation ethics	8
5. Sources of literature	17
6. Bachelor thesis elaboration, supervisor's task.....	18
7. Submission of the bachelor thesis.....	18
8. Registration for final state examination.....	20
9. Final state examination and bachelor thesis defence	20
10. Evaluation of the bachelor thesis.....	21
10.1 Classification grade – excellent.....	21
10.2 Classification grade – very good.....	21
10.3 Classification grade – good.....	21
10.4 Classification grade – failed	22
11. Bachelor thesis – research	22
11.1 Binder and cover sheet (see Chapter 3.2.1).....	22
11.2 Bachelor thesis assignment (see Chapter 3.2.2).....	22
11.3 BT author's statement (see Chapter 3.2.3)	22
11.4 Abstract, key words (see Chapter 3.2.4).....	22
11.5 BT Table of Contents (with references to page numbers) (see Chapter 3.2.5)	22

11.6	<i>Introduction (see Chapter 3.2.6)</i>	22
11.7	<i>Objectives of the thesis (see Chapter 3.2.7)</i>	22
11.8	<i>Literary research</i>	22
11.9	<i>Final evaluation</i>	22
11.10	<i>Discussion (see Chapter 3.2.10)</i>	23
11.11	<i>Conclusion and contribution of the thesis (see Chapter 3.2.11)</i>	23
11.12	<i>Bibliography (see Chapter 3.2.12)</i>	23
11.13	<i>Appendices (see Chapter 3.2.13)</i>	23
12.	<i>Bachelor thesis – study type, study project</i>	23
12.1	<i>Binder and cover sheet (see Chapter 3.2.1)</i>	23
12.2	<i>Bachelor thesis assignment (see Chapter 3.2.2)</i>	23
12.3	<i>BT author’s statement (see Chapter 3.2.3)</i>	23
12.4	<i>Abstract, key words (see Chapter 3.2.4)</i>	23
12.5	<i>BT Table of Contents (with references to page numbers) (see Chapter 3.2.5)</i>	23
12.6	<i>Introduction (see Chapter 3.2.6)</i>	23
12.7	<i>Objectives of the thesis (see Chapter 3.2.7)</i>	23
12.8	<i>Literary research</i>	23
12.9	<i>Characteristics of the study area</i>	23
12.10	<i>Methodology</i>	23
12.11	<i>Current state of play</i>	24
12.12	<i>Results (proposal) (see Chapter 3.2.9)</i>	24
	In this chapter, the student compares the outcomes from the literary research in a real environment. It is highly recommended to include one’s own pilot observation, selection of localities, recommendations on how to collect and assess data for a future DT.	24
12.13	<i>Discussion (see Chapter 3.2.10)</i>	24
	The student can provide their own opinions on the inputs, results and procedure in this section (regarding quality, other options., etc.), and discusses (compares) the results and procedures of other authors. In this chapter, the student may assess what future research could focus on.	24
12.14	<i>Conclusion and contribution of the thesis (see Chapter 3.2.11)</i>	24
12.15	<i>Bibliography (see Chapter 3.2.12)</i>	24
12.16	<i>Appendices (see Chapter 3.2.13)</i>	24
13.	<i>Bachelor thesis – experimental BT or processing existing data</i>	24
13.1	<i>Binder and cover sheet (see Chapter 3.2.1)</i>	24
13.2	<i>Bachelor thesis assignment (see Chapter 3.2.2)</i>	24
13.3	<i>BT author’s statement (see Chapter 3.2.3)</i>	24
13.4	<i>Abstract, key words (see Chapter 3.2.4)</i>	24

13.5	<i>BT Table of Contents (with references to page numbers) (see Chapter 3.2.5)</i>	24
13.6	<i>Introduction (see Chapter 3.2.6)</i>	24
13.7	<i>Objectives of the thesis (see Chapter 3.2.7)</i>	24
13.8	<i>Literary research</i>	24
13.9	<i>Methodology</i>	25
13.10	<i>Characteristics of the study area</i>	25
13.11	<i>Results of the thesis (see Chapter 3.2.7)</i>	25
	In this chapter, the student assesses the outcomes of the experiment or the results of data analyses	25
13.12	<i>Discussion (see Chapter 3.2.10)</i>	25
	The student can provide their own opinions on the inputs, results and procedure in this section (regarding quality, other options., etc.), and discusses (compares) the results and procedures of other authors. In this chapter, the student may assess what future research could focus on.	25
13.13	<i>Conclusion and contribution of the thesis (see Chapter 3.2.11)</i>	25
13.14	<i>Bibliography (see Chapter 3.2.12)</i>	25
13.15	<i>Appendices (see Chapter 3.2.13)</i>	25
14.	<i>Bachelor thesis – development of author’s software and information systems, advanced data analyses</i>	26
14.1	<i>Binder and cover sheet (see Chapter 3.2.1)</i>	26
14.2	<i>Bachelor thesis assignment (see Chapter 3.2.2)</i>	26
14.3	<i>BT author’s statement (see Chapter 3.2.3)</i>	26
14.4	<i>Abstract, key words (see Chapter 3.2.4)</i>	26
14.5	<i>BT Table of Contents (with references to page numbers) (see Chapter 3.2.5)</i>	26
14.6	<i>Introduction (see Chapter 3.2.6)</i>	26
14.7	<i>Objectives of the thesis (see Chapter 3.2.7)</i>	26
14.8	<i>Literary research</i>	26
14.9	<i>Input analysis of the problem resolution</i>	26
14.10	<i>Methodology</i>	27
14.11	<i>Characteristics of the study area</i>	27
14.12	<i>Results of the thesis</i>	27
14.13	<i>Discussion</i>	27
14.14	<i>Conclusion (see Chapter 3.2.11)</i>	27
14.15	<i>Bibliography</i>	27
14.16	<i>Appendices (see Chapter 3.2.13)</i>	28
15.	<i>Bachelor thesis – inventory survey</i>	28
15.1	<i>Binder and cover sheet (see Chapter 3.2.1)</i>	28

15.2	<i>Bachelor thesis assignment (see Chapter 3.2.2)</i>	28
15.3	<i>BT author’s statement (see Chapter 3.2.3)</i>	28
15.4	<i>Abstract, key words (see Chapter 3.2.4)</i>	28
15.5	<i>BT Table of Contents (with references to page numbers) (see Chapter 3.2.5)</i>	28
15.6	<i>Introduction (see Chapter 3.2.6)</i>	28
15.7	<i>Objectives of the thesis (see Chapter 3.2.7)</i>	28
15.8	<i>Literary research</i>	28
15.9	<i>Characteristics of the study area</i>	28
15.10	<i>Methodology</i>	29
15.11	<i>Current state of play</i>	29
15.12	<i>Results, management proposal</i>	29
15.13	<i>Discussion (see Chapter 3.2.10)</i>	29
15.14	<i>Conclusion (see Chapter 3.2.11)</i>	29
15.15	<i>Bibliography (see Chapter 3.2.12)</i>	29
15.16	<i>Appendices (see Chapter 3.2.13)</i>	29
16.	<i>List of important websites</i>	29
17.	<i>Appendices – Binder, cover sheet, statement, acknowledgement</i>	30

The “Methodological Guidelines for Writing a Bachelor Thesis at the Faculty of Environmental Sciences at the Czech University of Life Sciences in Prague” document is an internal regulation of the Faculty of Environmental Sciences.

The document contains binding standards and rules for the elaboration and defence of bachelor theses by students of the Faculty of Environmental Sciences at the Czech University of Life Sciences in Prague and is in compliance with Rector’s Directive No. 5/2019 – Rules of Assigning, Elaborating, Submitting, Archiving and Publishing Bachelor and Diploma Theses at the Czech University of Life Sciences in Prague. **Failure to observe the standards and rules may lead to the rejection of the defence of the bachelor thesis.**

This basic document is followed with individual demands and recommendations of the individual bachelor thesis supervisors that may be obtained during consultations.

The elaboration, submission and defence of the bachelor thesis is a condition for a due completion of the studies. **The elaboration of a bachelor thesis is pre-eminently the student’s responsibility.** The supervisor helps the student resolve the basic methodological and conceptual questions. The supervisor may point out formal deficiencies of the thesis and determine the schedule of the individual stages of work together with the student.

The bachelor candidate is required to show the ability to work with literature, to search for and sort information, to process information into a coherent form and to critically evaluate it within the thesis. The critical evaluation consists in seeking contradictions in terms in the statements (by various authors), general conclusions that are unfounded or not sufficiently substantiated with serious research results or other documents, and in seeking a space for further subsequent or additional research.

The theme of the bachelor thesis shall correspond with the content of the study programme and the field of study that the student chose, and it shall also relate to the professional issue of educational and scientific activity provided by the Faculty (usually directly related to the research tasks implemented at the Faculty) where the bachelor thesis has been assigned. The bachelor thesis may be used as the groundwork for the needs of a future master (diploma) thesis (of the student or their colleagues) which, however, is not a condition.

A bachelor thesis (hereinafter BT) elaborated by students of FES at the Czech University of Life Sciences in Prague may have the character of:

- research,
- study, a study project,
- experimental BT or processing of existing data,
- development of author's software and information systems, advanced data analyses,
- inventory research.

A bachelor thesis of a **research character** contains the necessary literary research on the issue in question with a larger number of citations of domestic and foreign professional literature. The word is based on the French *recherche*. It means looking for or verifying facts, data, information, a secondary document containing a list of document records or a summary of other information, such as evidence-based information corresponding to the research requirement. The bachelor candidate then evaluates the issue in question in the discussion. For more details, see Chapter 11 herein.

A **study** is mostly based on a text analysis of the selected issue or literary research. It is a work based on a text analysis of the selected issue, subsequently verified by a case study. It consists of two parts, a research part and an analytical part. The research part focuses on processing the current situation in the knowledge of the issue to be resolved from available literary sources. The analytical part in the form of a case study includes the application of the issue in a specific case (e.g. a specific locality, industry, company). The analytical part usually contains graphic or map outcomes and provides the assessment of the current situation and the suggestion of a solution, procedure, etc., for the issue in question in a text or graphic form. For more details, see Chapter 12 herein.

Experimental bachelor theses and processing of existing data have the form of a "small" diploma thesis. There should be brief, but dense research, methodology and description of the territory, results and discussion with bibliography. Naturally, even a small diploma thesis has to include objectives of the thesis in the research, formulated as a testable question. The student must prove that they understand the issue in question in the Methodology chapter. The student should describe each methodological step in detail and explain why it was used. How is an experimental BT different from a diploma thesis? The volume of the data processed is lower than in a diploma thesis, for example, it is only a pilot study, the data comes from one season, etc. An existing data processing BT focuses on processing data and interpreting the results in the discussion. The discussion may also include suggestions for alternative methods of processing. For more details, see Chapter 13 herein.

The outputs of bachelor thesis such as **development of author's software and information systems, advanced data analyses** can generally be of two types. The first one includes the final outcomes (such as the software, a module for current software, a simple information system) and the second one is a coherent basis for a future diploma thesis (analysis of the issue for the future creation of software, analysis of data sources and processes for a design of the structure and functionality of a simple information system, research of the methods for data processing for the issue in question supplemented with practical examples of their use, etc.). For more details, see Chapter 14 herein.

An **inventory** bachelor thesis is not only a mere list of species in the studied territory. It should contain an adequate analysis of the acquired data. The discussion should include general conclusions or a testable question that will be resolved in the following diploma thesis (for example, what the difference in the representation of species in various biotopes is). An inventory BT should have a practical use in nature conservation, e.g., as a basis for a declaration of a protected area. For more details, see Chapter 15 herein.

1. Selecting bachelor thesis topic

- the obligation to choose a topic is given by Dean's Provision No. 1/2020 – second year bachelor students must choose a BT topic according to the topics entered in the UIS no later than by the end of the 6th summer semester week (the exact date is in the FES schedule for the academic year in question – www.fzp.czu.cz),
- students can choose from the topics announced in the University Information System of CZU (hereinafter "UIS") at <https://is.czu.cz>, or on the department notice boards, department websites, or they can suggest their own topic (e.g. based on their previous practical experience),
- lecturers enter bachelor thesis topics (hereinafter "BT") in the UIS by the deadline stated in the FES schedule for the academic year in question in compliance with Dean's Provision No. 1/2020,
- the supervisors of bachelor theses are primarily the academic staff of the faculty where the student preparing the thesis is registered in a study programme,
- lecturers have the right to announce a competition for the thesis topic. During the competition, students defend their interest in the topic according to the terms and conditions of the competition.
- students may only work on their own topic provided that they address a lecturer at CZU who would be willing to expertly supervise such BT,
- when the BT supervisor is outside FES, the Application for BT/DT Supervision outside FES signed by the head of the supervisor's department and by the guarantor of the field of study must be submitted to the FES Study Department. The application is approved by the dean of the faculty where the student is enrolled – see Rector's Directive No. 5/2019 – Rules of Assigning, Elaborating, Submitting, Archiving and Publishing Bachelor and Diploma Theses at CZU,
- students discuss the specification of the topic with the BT supervisor. They agree on further procedures and terms and conditions of preparation, available sources for the work, including the possibilities of practical application;
- in addition to the thesis supervisor, an expert consultant may also be appointed, with whom the student consults the technical requirements of their work. The thesis consultant **cannot** simultaneously be the opponent to the thesis.
- the BT supervisor assigns the BT topic to the student in the UIS system.
- the assignment in the UIS is automatically cancelled when there is a change in the BT supervisor and the entire approval process must be repeated.

2. Bachelor thesis assignment preparation

- when the student wins a BT topic in a competition at <https://is.czu.cz>, they contact the lecturer who assigned the topic,
- when no competition is announced for the thesis topic, the student contacts the thesis supervisor who announced the topic,
- when the student has their own topic – see Section 1 above. Selecting bachelor thesis topic,
- the thesis supervisor, or a department employee designated by the head of the department, enters the “Bachelor Thesis Assignment” in the UIS system (required information: Czech title of the thesis, English title of the thesis, thesis type – BT/DT, language of the thesis, SBE date – 20XX/20XX SS)
- The assignment of the final – bachelor thesis shall be provided on an official form of FES, in an electronic form in the CZU University Information System.
- The “Bachelor Thesis Assignment” passes through an approval procedure, completed with an electronic signature of the head of the department where the thesis is registered and the FES dean. An assignment that contains all the particulars can be printed directly from the UIS.

3. Guidelines for writing a bachelor thesis

3.1 Formal requirements

- The **recommended minimum scope** of the BT is about 30 standard pages of text without appendices (one standard page has 30 lines with 60 characters); the maximum scope is not determined (to be recommended by the supervisor). A shorter BT may only be elaborated on the basis of a prior agreement with the supervisor. Similarly, any BT form that differs from the standard layout must be consulted with the supervisor.
- The **size of the margin** should be 2.5 cm at the top, bottom and external margin, and 4 cm on the internal margin; the mirrored dimensions are 145 mm x 247 mm. The internal margin of 4 cm is determined with respect to the binding.
- **Pages are numbered** at the bottom (footer). It is not recommended to number the pages on the left or inside as the numbers could be covered by the binding. Numbering starts on the page with the “Introduction”.
- **Font** – it is recommended to use Arial, Times New Roman.

- **Type size** of the text = Arial 11, Times New Roman 12, the type size for descriptions of pictures, graphs, tables, etc. can be 9-11.
- **Spacing** is recommended from 1 to 1.5. It is recommended to separate individual paragraphs with a smaller gap (such as 6 points) to provide good arrangement of the text.
- **Chapters** – chapters are numbered with Arabic numerals starting at 1 (this is usually the Introduction), with a graphically separated heading. The decimal sorting system is used (1., 1.1, 1.1.1). It is recommended not to use more than three levels of chapter numbering (for example, 1. – the whole chapter, 1.1 – a part of the chapter, or 1.1.1 as a part of the subhead); exceptionally, it is possible to use four levels. There is no dot after the last number in multi-level chapter numbering (e.g. 2.1.3); there is a dot in single-level numbering (e.g. 2.).
- **Text editing** – the text is written in A4 format, only on one side; it can be prepared using MS Office or Open Office programs. The thesis is a technical report, therefore it is required to pay attention to the explicitness, objectivity and comprehensibility of the information and the text. The work must be easy to read, without any typing errors or misspellings. The **language arrangement** shall comply with the valid regulations (Czech language rules). The thesis is written in the past passive voice; only methodology may be written in the first person singular (not recommended). It is not recommended to use the first person plural as it indicates more than one author.
- **GRAPHS AND PHOTOGRAPHS ARE FIGURES!**
- **References in text** – are required with images (graphs, photographs), tables, formulas and appendices.
- **Numbering figures (graphs, photographs), tables, formulas, and appendices** – figures, tables ,etc., must be separated and each group of objects must be assigned its own numbering in a continuous series (Fig. 1, Fig. 2, Fig. 3, etc.; Tab. 1., Tab. 2., Tab. 3, etc.; Appendix 1, Appendix 2, Appendix 3, etc.). Figures and tables can be numbered including the chapter number, for example, in Chapter 3, there is Fig. 3.1, 3.2, etc., in Chapter 4, there is Fig. 4.1, 4.2, etc.
- The **descriptions of figures, tables and formulas** shall be provided individually and they must describe the illustrated fact in detail. Any adapted figures and tables must include the prescribed citation (= reference to the original literary source). Any figures and tables created by the author do not need to have a reference; authorship applies to the entire thesis. The description shall contain the number and title of the object and a brief explanation of the content that helps readers understand the illustrated facts. Information presented in the object must be comprehensible from the description. Descriptions may be placed above and below objects, however, the selected layout must be uniform throughout the thesis.
- When signs, symbols and abbreviations are used in the text, objects or appendices, a legend must be enclosed. The **legend** must be legible and contain all the elements that cannot be

otherwise identifiable. The legend may be placed within the description above and below the figure, table, graph or appendix.

- **Appendices** may be separated from the text and bound separately in justifiable cases (for example, a lot of maps). Appendices that contain larger formats may be placed in a tube provided with a label that contains the BT title, author's name, supervisor's name, university, faculty and department, and the year of publication.
- **Thematic maps** created by the bachelor candidate shall respect basic cartographic rules (e.g. contain the required map elements). This especially applies to maps in appendices. Simple maps in the text may be presented as figures – the rules for figures then apply.
- Every **abbreviation** shall be explained when first used in the text. If needed (for example, a large number of abbreviations are used), it is possible to add a list of abbreviations and their meanings in a separate appendix.
- **Scientific names** of plant and animal taxons are always written in cursive. When a taxon is first mentioned, both the Czech and Latin name is provided, then only one of them (in a uniform way).
- The text should respect basic topographic instructions.

3.2 Required parts of BT

The BT **shall include** the following order of the **required parts of the thesis**:

- binder and cover sheet (Appendix No. 1),
- assignment of the bachelor thesis,
- the BT author's statement (Appendix No. 1),
- abstract, key words (Czech and English),
- BT Table of Contents (with references to the page numbers),
- introduction,
- BT objectives,
- methodology,
- the thesis – itemisation depends on the thesis type, see below,
- results,
- discussion,
- conclusion and contribution of the thesis,
- bibliography,
- appendices.

The **pages are numbered** from the Introduction chapter, i.e.,

1. Introduction 1

3.2.1 Binder and cover sheet

The binder includes the name of the university, type of thesis (bachelor thesis in this case), year of publication, and the author's name and surname. The faculty can also be included below the name of the _____ the _____ university (example – Appendix No. 1).

The cover sheet includes the name of the university, faculty, department, BT title, type of thesis (bachelor thesis in this case), name and surname of the BT supervisor with titles, author's name and surname, and year of publication (example – Appendix No. 1).

3.2.2 Assignment of the bachelor thesis

The assignment of the bachelor thesis shall be printed from the UIS and electronically signed by the head of the department and the dean of the faculty.

3.2.3 BT author's statement

This is where the student states that the thesis is their own work, using the following wording:

I hereby declare that I have independently elaborated the bachelor/final thesis with the topic of: and that I have cited all of the information sources that I used in the thesis as listed at the end of the thesis in the list of used information sources.

I am aware that my bachelor/final thesis is subject to Act No. 121/2000 Coll., on copyright, on rights related to copyright and on amendments of certain acts, as amended by later regulations, particularly the provisions of Section 35(3) of the act on the use of the thesis.

I am aware that by submitting the bachelor/final thesis I agree with its publication under Act No. 111/1998 Coll., on universities and on the change and amendments of certain acts, as amended, regardless of the result of its defence.

With my own signature, I also declare that the electronic version is identical to the printed version and the data stated in the thesis has been processed in relation to the GDPR.

The student adds the date and place of the statement and signs it (Appendix No. 1).

3.2.4 Abstract, key words

The BT also includes a Czech and English abstract, the purpose of which is to summarise the following in about 0.5-1 page:

- objectives of the thesis and the method of fulfilling them,
- definition of the area to be resolved,
- major methodological procedures,
- primary results,
- contribution of the thesis (author's own contribution to the area of resolution).

Key words (3-5) that describe the purpose of the BT well are stated below the abstracts. They should not include words used in the title of the thesis (your thesis is searched for using the key words and the title; using the same words reduces the search possibilities).

3.2.5 *BT Table of Contents (with references to the page numbers)*

The itemisation of the thesis shall be obvious from the Table of Contents. Each chapter must be marked with the page number where it starts.

3.2.6 *Introduction*

The introduction must clearly imply why the BT is written. It includes a brief summary of the current state of play (with references to the sources), i.e., a description of what facts are known in relation to the topic and what is not known (e.g. with regard to the concerned scientific issue and research focus, solution for a particular locality or institution, character of the data, methods,

etc.). That implies the substantiation of the solution. Something is known or elaborated and the thesis deals with a particular part of the problem that has not yet been resolved (again, e.g., in relation to research, locality, methods, etc.). Such an introduction logically implies objectives.

Considering that it is a scientific work, it is recommended to avoid formulations explaining the author's relation to the topic, such as "I have always loved animals and want to help protect the poor creatures", "I used to watch the sky when I was a small boy and wonder what those moving lights were", and so on.

3.2.7 *Objectives of the thesis*

- The student clearly formulates the objectives of the thesis, determines a hypothesis or questions that are answered in the Results chapter.

3.2.8 *Methodology*

The student shall describe each methodological step in detail and explain why it was used. Methodology shall be described in such detail so that it would be possible to repeat it based on the description. The student shows that they understand the given issue. Mere references to literature are definitely not sufficient. Methodology may also include a description of the area of interest.

3.2.9 *Results*

The aim of this chapter is to present substantive results in the form of texts, graphs, tables or maps. Do not provide lists of never-ending tables and thousands of graphs from individual analyses; always include only important results. The results of statistical tests shall be presented according to the rules (state the name of the test used, sample size, test statistics value and the achieved level of probability).

Do not provide lists of never-ending tables and thousands of graphs from individual analyses; always include only important results.

3.2.10 Discussion

The student can provide their own opinions on the inputs, results and procedure in this section (regarding quality, other options, etc.), but, above all, the student should discuss (compare) the results and procedures of other authors. However, the discussion should avoid simple repetition of information already known from the Results chapter. The results of the thesis should be put into a broader framework in the discussion.

3.2.11 Conclusion and contribution of the thesis

The BT conclusion shall include:

- summary of the results, findings acquired by the elaboration of the BT,
- contribution of the author to the resolved problem,
- evaluation of the applicability of the achieved results, or other suggestions for solutions in the concerned area.

It is not suitable to include very general conclusions, such as ‘The thesis has shown that the planet needs to be protected’, ‘In conclusion, my research has confirmed that GIS is an important tool for...’, and so on.

3.2.12 Bibliography

The origin of the ideas in the BT must be obvious. Therefore, we use citation ethics, the result of which is a list of bibliography and other used sources. For more details, see Chapter 4 herein.

A list of used literature in the BT usually includes at least 30 scientific sources, of which at least 1/3 are foreign scientific sources. Literature from internet sources (non-professional, non-scientific) should only be supplementary; printed literature should be the foundation. **The availability and scope of literature depends on the topic of the thesis and the supervisor shall determine the “minimum number” of cited Czech and foreign scientific and academic literature.** When the number of domestic or foreign sources is considerably lower, the supervisor shall include this information in the BT assignment.

3.2.13 Appendices

This is where the student includes the outcomes (maps, figures, tables, photographs, etc.) that cannot be inserted in the text, whether due to the size or for other reasons. Appendices are numbered separately.

These are the required parts for all types of BT (study, experimental BT or processing of existing data, author’s software, IS proposal, project, environmental expertise). A more detailed layout of the chapters according to the individual BT types is provided in other chapters herein (Chapters 11-15).

3.3 Optional parts of the BT

The BT may include:

- **acknowledgement** – when the student decides to include acknowledgement in the thesis, it should have a similar layout as the Statement (example – Appendix No. 1). The acknowledgement is placed after the author's statement. The student can include anyone in the acknowledgement who they would like to thank for any help and support (thesis supervisor, consultant, parents, etc.) – however, not the opponent). It is required to mention any potential used source of financing (grant, sponsorship, etc.).
- **lists of figures, tables, formulas and appendices** – when the student decides to include these lists, they should follow after the Bibliography.
- **terminological vocabulary** – when the student decides to use the vocabulary, it should be stated before the Bibliography. Terminological vocabulary is only included in the case of highly specialised scientific terminology.
- **list of used abbreviations and symbols** – when the student decides to use the list, it should be included before the Introduction.

The proportionality of the individual chapters differs. The chapters such as Literary research, Methodology, Characteristics of the interest area, Current state of play and Results are more extensive. The Discussion is usually shorter (3-5 pages). The Introduction, Objectives of the thesis and the Conclusion (written in the one's own words) are usually 1-2 pages long with emphasis placed on their clear and precise formulation.

4. Citation ethics

- The BT must respect the copyright and citation standards. It must include citation references in the text and a list of literature or other sources. Those two things must be in compliance, which means that the reference in the text has to be included in the list of literature and vice versa,
- a citation differentiates any adapted information from the author's own text; therefore, all adapted information must include a reference to the original source, similarly, sources need to be stated for any adapted figures, graphs, tables, photographs or diagrams,
- **the student guarantees** adherence to the copyright and **originality of the thesis**, as well as providing a list of used literature and accurate citations. The thesis will not be accepted in the case of a failure to observe the rules and a disciplinary procedure may lead to expulsion from

study. At the same time, there might a response and defence from authors whose works were misused, which might lead to legal proceedings,

- the rules apply to both printed and electronic texts (for example, if published on the internet),
- **the BT author correctly cites when they only adapt an idea from the scientific work**, not the entire text; the original text is adjusted stylistically for the needs of the student's text but the idea has to be preserved, and above all, it must be cited!
- with regard to the formal part of citations, the student should follow the recommendations in this document or conventions used in prominent professional or scientific periodicals (reviewed or with IF) of a corresponding specialisation,
- the student should select a method of citation at the beginning of BT that will be followed uniformly throughout the thesis!
- The list of used literature in the BT usually includes **at least 30 scientific sources, of which at least 1/3 are foreign scientific sources**. Literature from internet sources (non-professional, non-scientific) should only be supplementary; printed literature and articles from the electronic versions of scientific magazines should be the foundation. The availability and scope of literature depends on the topic of the thesis and the supervisor shall determine the "minimum number" of cited Czech and foreign scientific and academic literature.
- **The BT is subject to plagiarism control** (see Article 6 of Rector's Directive No. 5/2019). Any thesis that shows more than 10% concordance with the texts of other authors is considered to be plagiarised when such texts are included in the thesis without proper citations. Any thesis that shows more than 20% concordance with the texts of another author, even with proper citations, shall also be considered to be plagiarised as the texts are adapted as a compilation of coherent parts elaborated by another author. **Concordance of the thesis** with other previously published texts of the author is not considered plagiarism. However, the total amount of such concordance (the number of concordances with other theses) **must not exceed 40%**. A thesis that does not include proper citations for more than 10% of the literary sources listed at the end of the thesis in the list of information sources shall also be considered non-compliant.

Citations – references in the text:

- an idea or information is adapted, NOT the stylistic formulation – the style is reworked to fit in the text, however, the idea must be preserved and cited,
- the text should always imply where the information was taken from. The reference can be stated after a specific number, sentence, paragraph and so on.
- references after the cited part should be stated in the form of **surname + year in round brackets** (Novák 1980) or (Novák, 1980). When there are two authors, they are separated using a conjunction or a comma:

- (Novák et Nováková 1980) / (Novák et Nováková, 1980),
 - (Novák & Nováková 1980) / (Novák & Nováková, 1980),
 - (Novák a Nováková 1980) / (Novák and Nováková, 1980),
 - (Novák, Nováková 1980) / (Novák, Nováková, 1980),
- When there are three and more authors, only the first author is stated, followed with “et al” or “a kol.,” “& coll.” (Novák et al. 1945) or (Novák and coll. 1945) or (Novák & coll. 1945) – it is important to follow a uniform method throughout the thesis, i.e., to choose the use of the “et” conjunction, or “and”, or “&” and not to combine them,
 - when the author has published several works in the given year, they are differentiated using a, b, c, etc., both in the text and in the list of literature (Novák 2008a). When the surnames of various authors are the same, they are differentiated using an abbreviation of their first name,
 - when you cite from several sources, they should be stated chronologically and in ascending order in the text (Novák 2007; Nováková 2008; etc.), also alphabetically within the same year,
 - when the author is not a person, use the name or abbreviation of the corporate authority that is responsible for the contents of the document (MŽP ©2008, IUCN ©2016, Botanický ústav AV ČR ©2016). Articles, maps and such that are not signed are labelled as anonymous (Anonymous 2001) or (Anonym 2001),
 - it is recommended to choose a suitable character style when stating the author (small caps, all caps). Once again, it must be uniform in the entire thesis,
 - references can also be incorporated in the text – it makes it look more professional: as *NOVÁK (1961) mentions it is...*, however, *on the other hand, NOVÁKOVÁ (1995) states...* In this case, some scientific periodicals require that the author is stated in the first case, so word connections such as *according to NOVÁK (1961)* should be avoided,
 - the text should not be adapted with references to the sources (secondary citation). In such case, it is required to find the original source and cite it. When it is not possible after searching and reading the original ideas of the author (e.g. the publication cannot be found in specialised libraries, at the Web of Knowledge, in archives), it is possible to cite in the form of “A ex. B”. This means you are adapting information for your text that “A” cited “B” in their work (e.g. Novák 2000 ex. Nováková 1736),
 - **references to the sources must also be provided in all adapted figures, graphs, tables, photographs or appendices.** When figures or photographs comes from a single source, it does not have to be cited for each individual figure but it can be mentioned under Methodology, such as The photographs used in the thesis were taken by the author in October and November 2015.
 - **the discussion** may include a citation of an unpublished opinion or result, stating the author and the note (not published), or provided personally = in verb (verbally), or in writing = in litt.

(written), or (pers. comm.). Such citations are not listed under the cited works. To be more precise, it is recommended to also include the name and date, or at least the year in the case of personal comment (Jan Novák, IV. 2007, in verb.); (Jan Novák, IV. 2007, in litt.); (Jan Novák, IV. 2007, pers. comm.).

Citations – bibliography:

- the references must include all of the citations that are referred to in the text and there must not be any extra sources or any missing sources,
- every citation has a full stop at the end like a sentence,
- citations in the bibliography are divided into:
 - scientific publications (scientific books, monographs, articles in scientific periodicals, chapters in a book, articles in manuscripts),
 - legislative sources (act, decree, standard),
 - internet sources,
 - other sources (project documentations, methodological guidelines, handbooks, bachelor or diploma theses, information brochures, manuals),
- citations in the bibliography must be sorted in alphabetical order by the author's surname and when there are several citations from one author, the publications that the author wrote are first listed chronologically, then those where there are two authors and so on (e.g., in this order: Novák P., 2007; Novák P., 2008; Novák P. & Brouček, K., 2001),
- every citation element must be clearly separated from the following elements, that is using separating punctuation (full stop, comma, etc.). The selected layout must be uniform throughout the thesis,
- the student can choose graphic design according to the practices in the given field, however, all the citations within the thesis must have the same graphic design and be formally uniform (e.g. do not combine the use of Latin/Czech/English abbreviations). The list must be well-arranged and has to provide for an easy search,
- it is also possible to include other details: what edition, title of the edition, etc. It is possible to list the ISBN number at the end of the citation (however, most scientific periodicals do not require that).
- in the case of unpublished reports (e.g. bachelor/diploma theses, project documentations, etc.), "unpublished" is stated after the citation of the work and the place where the work is archived (stored): "Dept.: Name of the corresponding archive",

- when there are several authors, do not use “and collective” in the bibliography (and coll., et al.). All the authors are listed in the bibliography, or editor (ed.) or editors (eds.) with the corresponding abbreviation,
- when a figure is adapted from the internet, it is not required to state the internet address as a part of the description of the figure, especially when the link is longer than the title of the figure (see below),
- the following order shall be observed within a citation:

Scientific books, monographs: Author’s surname, first letter of the author’s name (full stop, comma), year of publication (colon): Title of the book (full stop). Name of the publisher (comma), place of publication (comma or full stop), number of pages (full stop). The number of pages does not need to be provided, the citation then ends with the place of publication, or it is possible to include an ISBN.

Example:

- Kovář P., 2014: Ekosystémová a krajinná ekologie. Nakladatelství Karolinum, Prague, 169 pp.
- Buček a. et Lacina J., 1999: Geobiocenologie II. Mendel University in Brno, Brno, 240 pp.
- Culek M. [ed.], 2005: Biogeografické členění České republiky II. Nature Conservation Agency of the Czech Republic, Prague, 589 pp. + CD.
- Chytrý M., Kučera T., Kočí M. [eds.], 2001: Katalog biotopů České republiky. Nature Conservation Agency of the Czech Republic, Prague, 304 pp.
- Ministry of the Environment, 2004: National Environmental Policy of the Czech Republic 2004-2010. Ministry of the Environment of the Czech Republic, Prague, 56 pp.
- Sutherland W. J., 2000: The Conservation Handbook: Research, Management and Policy. Blackwell Science, Oxford, 278 pp.

Article in a scientific periodical: Author’s surname (may be followed with a comma), first letter of the author’s name (full stop, comma), year of publication (colon): Title of the article (full stop). Name of the magazine or the official abbreviation of the magazine and issue, or year/issue (full stop), number of pages (full stop). The number of pages is required in a magazine; it can be stated as pp. 1-10, or just 1-10. Or just provide an ISSN.

Example:

- Itami R. M., Simulating spatial dynamics: cellular automata theory. Landscape and Urban Planning 30. Pp. 27-47.
- Dover J. W., 1997: The importance of shelter for butterflies in open landscapes. Journal of Insect Conservation 1: 89-97.
- Chytrý M. et Rafajová M., 2003: Czech National Phytosociological Database: basic statistics of the available vegetation-plot data. Preslia 75: 1-15.
- Ložek V., 1988: Měkkýši a změny prostředí. Památky a příroda 13: 547-553.

- Tveit M. S., 2009: Indicators of visual scale as predictors of landscape preference; a comparison between groups. *Journal of Environmental Management* Volume 90, Issue 9. Pp. 2882-2888.
- Ervin D. E., 1982: Soil erosion control on owner-operated and rented crop land. *J. Soil Water Conserv.* 37 (5), 285-288.

Chapters in a book, articles in manuscripts: Surname of the chapter's author (may be followed with a comma), first letter of the author's name (full stop, comma), year of publication (colon): Title of the chapter (full stop). In: Surname of the book's editor or book's authors and the first letter of the author's name (ed., eds., colon): Title of the book, manuscript (full stop). Name of the publisher (comma), place of publication (comma or full stop), number of pages (full stop). When there are several editors, use the abbreviation (eds). Or just provide an ISBN.

Example:

- Dokoupil, J., 2004: Hraniční efekt. In: Jeřábek, M., Dokoupil, J., Havlíček, T and coll.: České pohraničí – bariéra nebo prostor zprostředkování? Academia, Prague. Pp. 53-56. ISBN 80-200-4051-3.
- Vorel, I., 2007: Aktuální problémy v ochraně charakteru krajiny a krajinného rázu. In: Vorel, I., Kupka, J. (eds.): Aktuální problémy ochrany krajinného rázu 2007. Sborník příspěvků z odborného semináře. Nakladatelství Centrum pro krajinu s.r.o, Prague. Pp. 58.
- Pyše P., 2005: Zavlečené a invazní druhy jako indikátory změn biodiverzity. In: Vačkář D. (ed.): Ukazatele změn biodiverzity. Academia, Prague: 129-146.

Internet source – monograph, article on web portals: Surname of the article's author (may be followed with a comma), first letter of the author's name (full stop, comma), year of publication (colon): Title of the article (on-line) [cit. date in the format year.month.day] (comma), available at <website> (full stop).

Example:

- Svobodová, K., 2011a): Krajina a krajinný ráz ve strategickém plánování (on-line) [cit. 2012.04.04], available at <http://cvut.mapovyportal.cz/krajina_krajinnny_raz.pdf>.
- Mana, V., 2007: Krajinný ráz – poznámky a náměty k jeho hodnocení a hodnocení vlivu záměrů (on-line) [cit. 2012.04.10], available from <http://www.belbo.cz/wp-content/uploads/2009/12/Krajinnny_raz_met_nav.pdf>.
- Sklenička, P., 2002: Ochrana krajinného rázu v procesu EIA (on-line) [cit. 2012.04.18], available at <http://www.centrumprokrajinu.cz/doc/PDF_21.pdf>.
- Vorel, I. 2003: Studie ochrany krajinného rázu na území vybraných přírodních parků Plzeňského kraje (on-line) [cit. 2012.04.20], available at <<http://www.kr-plzensky.cz/cs/article/studie-ochrany-krajinneho-razu-na-uzemi-vybranych-prirodnich-parku-plzenskeho-kraje?sekce=all>>.

Internet source – websites of institutions, municipalities: Name of the institution (municipality) or generally known and used abbreviation of the institution (e.g. Abbreviation of the institution – name of the institution) (comma), ©year of publication (colon): Title of the article (on-line) [cit. ????.???.??] (comma), available at <website> (full stop).

Example:

- AOPK ČR, ©2016: Správa CHKO Beskydy (on-line) [cit.2012.04.20], available at <<http://www.beskydy.ochranaprirody.cz>>.
- INSTITUTE OF BOTANY OF THE CZECH ACADEMY OF SCIENCES, ©2016: Oddělení ekologie invazí / Department of Invasion Ecology (on-line) [cit.2014.12.03], available at <http://www.ibot.cas.cz/invasions/index_cz.html>.
- ČÚZK, ©2015 a): State Administration of Land Surveying and Cadastre: Stručná historie pozemkových evidencí (on-line) [cit. 2015.11.24], available at <<http://www.cuzk.cz/Katastr-nemovitosti/O-katastru-nemovitosti/Historie-pozemkovych-evidenci.aspx>>.
- ELC, ©2000: European Landscape Convention (on-line) [cit. 2015.10.19], available at <[http://www.mzp.cz/C1257458002F0DC7/cz/evropska_umluva_o_krajine_smlouva/\\$FILE/OZ_V_anglicky_text_EoUK_20120125.pdf](http://www.mzp.cz/C1257458002F0DC7/cz/evropska_umluva_o_krajine_smlouva/$FILE/OZ_V_anglicky_text_EoUK_20120125.pdf)>.

Legislative materials – act, decree, standard:

- be aware of the fact that an act, decree or standard is characterised by its number, so the word act, decree, standard starts with a capital letter only when at the beginning of the sentence,
- citation in the text: ... under Section 2 of Act No. 114/1992 Coll.; in Decree No. 13/2014 Coll., it is stated...; CSN 736109 states...;
- when the regulation is used more often in the thesis, it is possible to state “(hereinafter the Act)” in brackets after the first full citation,
- Remember that acts are frequently amended and it is required to specify precisely which amendment you have in mind. When it is the latest one, then use the formulation “as amended”,

Example:

- Act No. 114/1992 Coll., on nature and landscape protection, as amended.
- Act No. 139/2002 Coll., on land consolidation and land offices, as amended.
- Decree No. 13/2014 Coll., on the procedure of land consolidation and particulars of land consolidation proposals, as amended.

Technical standards: Denomination (colon), Name (full stop), Publisher (comma), Place of publication (comma), Year of publication (full stop), Number of pages (full stop).

Example:

CSN 73 6109: Design of field roads. Czech Office for Standards, Metrology and Testing, Prague, 2013. 36 pp.

Bachelor/Diploma theses: Author's surname, first letter of the author's name (full stop, comma), year of publication (colon): Title of BT/DT (full stop). Name of the university (comma), name of the faculty (comma), or name of the department (comma), place of publication (comma or full stop). Number of pages (full stop). (bachelor/diploma thesis) (full stop). "unpublished". Dep. Name of the corresponding archive (full stop).

Example:

- Novák, F., 2011: Vliv těžby hnědého uhlí na krajinu. Czech University of Life Sciences, Faculty of Environmental Sciences, Prague. 78 pp. (bachelor thesis). "unpublished". Dept. SIC CZU in Prague.
- Nováková, R., 2015: Historická analýza území. Czech University of Life Sciences, Faculty of Environmental Sciences, Department of Land Use and Improvement, Prague. 152 pp. (diploma thesis). "unpublished". Dept. SIC CZU in Prague.

Project documentations: Name of the institution (full stop, comma), year of publication (colon): Title (full stop). Publisher (comma), place of publication (comma or full stop), number of pages (full stop). "unpublished" (full stop). Dept.: Name of the corresponding archive (full stop).

Example:

- HYDROPROJEKT, 1993: Komplexní pozemková úprava v k. ú. Přítoky – Technická opatření KPÚ, 43 pp., "unpublished". Dept.: Kutná Hora Land Authority.
- Novák, K., 2001: Kněževes – kostra společných zařízení, project documentation. 56 pp. "unpublished". Dept.: Rakovník Land Authority.
- Kuneš, K., 2001: Projekt výsadby a údržby doprovodné zeleně v k.ú. Nová Ves u Kdyně. 53 pp., "unpublished". Dept.: Kuneš, K., Klenčí pod Čerchovem.

Handbooks (manuals), guidelines etc.: Name of the institution (full stop, comma), year of publication (colon): Title (full stop). Publisher (comma), place of publication (comma or full stop), number of pages (full stop).

Example:

- FES, 2012: Modelování změn v krajině – návody ke cvičením. FES CZU, Prague, 41 pp.

- FES, 2016: Methodological Guidelines for Writing DT at FES. FES CZU, Prague, 36 pp.

Figures (graphs, photographs), tables, appendices, etc.:

Example:

In the text:

Denomination (figure, table, appendix, etc.) number (colon): Name of the figure, table, appendix, etc., and a link to the source in brackets – author, institution or internet address (full stop).

Figure 1: Common kingfisher (Ošmyk, 2011)

Figure 2: Matrix porosity and connection (Forman et Godron, 1993).

Table 5: Categories of specially protected areas (Nováková according to the Control List of Nature Protection, 2016)

Appendix 1: Assessed route R 49 with marked construction sections (www.mapy.cz modified by Novák, 2012).

In the list of figures:

Figure 1: Common kingfisher (Ošmyk, J.: Videos for gamekeepers, hunters, woodsmen (on-line) [cit. 2012.04.20], available at <<http://www.nature-photogallery.eu/cz/foto/2881-lednacek-ricni-samecek/>>.

Figure 2: Matrix porosity and connection (Forman et Godron, 1993).

Table 5: Categories of specially protected areas (Nováková according to the Control List of Nature Protection <http://drusop.nature.cz/>).

Appendix 1: Assessed route R 49 with marked construction sections (www.mapy.cz modified by Novák, 2012).

It is possible to cite a URL in case the links to websites are long:

Example:

In the text:

Figure 3: Development of the monitored section of Lázeňský Stream – A) in the years 1836-1852 – Second period of military mapping (URL 1), B) in the years 1877-1880 – Third period of military mapping

(URL 2), C) in an image map from 2002-2003 (URL 1), D) in a contemporary image map – after the implemented recovery (URL 1)

Figure 11. Eurasian beaver (*Castor fiber*) (URL 3)

In the list of figures:

URL 1: <<https://mapy.cz/>> [cit. 3016.05.20]

URL 2: <<http://oldmaps.geolab.cz/>> [cit. 3016.05.20]

URL 3: <<http://www.bobroviny.cz/image.php?pic=0&top=0606zoo>> [cit. 3016.05.20]

AUTOMATIC GENERATION OF CITATIONS

It is possible to use one of the programs for publication administration to store and organise documents (scientific articles) and to generate citations.

Such software is able to obtain the name of the document, authors, magazine, year, number of pages and other information from the electronic version of the article (in a PDF format), from which it then generates citations in the text, as well as a bibliography. Students can use free software such as Mendeley <https://www.mendeley.com/> or Zotero <https://www.zotero.org/>.

Other software to use is EndNote (<http://endnote.com/>) with a free 30-day trial version.

5. Sources of literature

Studying and borrowing from a library (the SIC library, library of the Czech Academy of Sciences, National Technical Library, Czech National Library, Agricultural and Food Library, library of the Agency for Nature Conservation and Landscape Protection of the Czech Republic and so on. You can get access to full-text databases of scientific magazines in the libraries for a small fee.

Databases accessible at CZU – SIC services <http://infozdroje.sic.czu.cz/cs/>

On-line databases (citations, abstracts, full-text)

You can search for a corresponding citation, abstract or the whole text of a thesis using **key words** and their combinations or other criteria (such as the author's name, magazine name). Contacts of authors can also be convenient as you can send them an e-mail to request their articles. **Tip:** It is useful to continuously save all of the interesting links or abstracts you find, or to create a simple table (database) of all citations, abstracts, articles, or to use one of the programs for publication administration (see above).

Example:

- ELSEVIER → <http://www.sciencedirect.com/science/journals>
- WEB OF SCIENCE → <https://apps.webofknowledge.com/>

6. Bachelor thesis elaboration, supervisor's task

- the student follows the rules and schedule of the faculty where they are enrolled when elaborating their BT.
- the language of the BT (hereinafter the "thesis language") is determined by the accreditation of the student's study programme. The thesis language is specified in the assignment and is binding for the student. The dean of the faculty may permit an exception in justified cases.
- **the elaboration of a BT is pre-eminently the student's responsibility.** The supervisor helps the student resolve the basic methodological and conceptual questions and points out any potential formal deficiencies of the thesis. It is recommended that the supervisor together with the student determines a schedule of tasks and submission of the individual parts for control.
- when working on the BT, **the student shall** regularly consult their procedure and the individual outcomes with the BT supervisor or consultant. It is possible to use the UIS Consultation module for consultations.

7. Submission of the bachelor thesis

- the student submits the final BT in an **electronic and printed form**.
- **check the title of the thesis before submission!** The title of the thesis in Czech and English on the cover sheet must be identical to the title of the thesis in the Bachelor Thesis Assignment. It is not possible to correct the title after the thesis has been submitted.
- before submitting the final BT, the student must submit the thesis to the supervisor for evaluation.
- no later than upon the last BT control, the thesis supervisor appoints **the opponent**.
- the student submits **2** bound hardback copies of the BT at the secretariat of the department where it was elaborated (one copy will be returned to the student after defence). The deadline is determined in the FES schedule.
- the electronic version of the BT must be identical to the printed version; the student confirms the conformity with a statement in the UIS when submitting the BT and by signing a statement in the printed copy of the BT.
- the student shall upload the final version of the BT to the UIS in the PDF format. The size of the uploaded file is limited to 10 MB. The thesis title can be anything; it will be adjusted by the system after uploading.

- the thesis may only be submitted electronically after additional information has been added – key words (at least 3), abstract and the optional legal clause, all in Czech and English. The submission of the thesis takes place in two steps:
 - 1) by clicking the **Final Thesis Submission** button. You confirm that you have completed the additional information correctly and that the BT you have uploaded is identical to the printed version. It is not possible to manipulate the uploaded thesis after submission.
 - 2) confirmation by clicking the **Submit the Final Thesis** button.
- **the BT submission deadline** is strictly binding and is subject to the FES schedule for the academic year in question.
- When the student submits the BT, there is a protective period of 24 hours during which it is possible to cancel the BT submission in the UIS and upload a new file. However, it is only possible when the BT submission deadline determined by the faculty has not yet expired. After the lapse of the protective period, the student is not entitled to change the electronic version of the BT in the UIS in any way.
- When the BT has been submitted, it is sent for **plagiarism control** (the plagiarism control report is available no later than 5 days after submission).
 - the electronic version of the BT is sent for content concordance control after it has been uploaded into the UIS and the 24-hour protective period during which the student is entitled to make corrections in the uploaded file expires.
 - the control is done via the Theses.cz portal and its objective is to determine concordance of the student's BT with the texts of other authors. The control result is then made available in the UIS to the student, the BT supervisor, the head of the department and the relevant vice-dean of the faculty. The control result is also displayed in the overview of final theses in the UIS of the BT supervisor.
 - when the concordance of the thesis with texts of other authors equals or exceeds 15%, the BT supervisor must make a statement to the concordance in their opinion.
 - any BT that shows more than 10% concordance with texts of other authors is considered to be plagiarised when such texts are included in the thesis without proper citations.
 - any thesis that shows more than 20% concordance with the texts of another author, even with proper citations, it shall also be considered to be plagiarised as the texts are adapted as a compilation of coherent parts elaborated by another author.
 - Concordance of the thesis with other previously published texts of the author (e.g. bachelor thesis) is not considered plagiarism. The amount of such concordance (the number of concordances with other theses) must not exceed 40%.

- a thesis that does not include proper citations for more than 10% of the literary sources listed at the end of the thesis in the list of information sources shall be considered non-compliant.
- the decision on whether or not the BT should be considered plagiarised is made by the committee at the final state examination (hereinafter the “FSE”) before whom the student defends their thesis.
- when the BT is deemed plagiarised according to the committee under the previous clause, the student is graded as “unsatisfactory” and the whole case is handed over to the corresponding disciplinary committee.
- the disciplinary committee shall also receive the case of plagiarism when the student does not defend the thesis before the committee at the final state examination (e.g. due to the fact that the student cancels the SFE registration in advance).

8. Registration for final state examination

The FSE application is available in the UIS → Student Portal → FSE Application.

There, you will see the list of dates and you need to click on the arrow for an active date in the Register → column to display the list of state exam subjects; you can also register to participate in the graduation ceremony. Confirm the application by clicking the **Submit the state exam application** button. The deadline for FSE registration is determined in the FES schedule. When you submit the application, an e-mail with information on the graduation ceremony fee will be generated.

9. Final state examination and bachelor thesis defence

- the thesis defence is a part of the FSE and takes place before the FSE committee according to the rules of the faculty.
- the student is informed of the assignment to the FSE committee via the UIS and also by an e-mail sent automatically via the UIS.
- **the date and place of the BT defence** and the final state examination is published in the UIS,
- the opponent's opinions on the BT prepared by the supervisor and the opponent are displayed in the UIS no later than 3 days prior to the defence,
- when the final grade of the BT defence is “unsatisfactory”, the thesis is saved in the UIS and the student must upload a new file with the thesis, including additional information, for the new

defence. The same procedure also applies in such case the student is not permitted to defend the thesis due to the fact that the BT has been graded as “unsatisfactory” both by the opponent and the supervisor.

- when the defence does not take place because the student has excused themselves from the FSE date (the grade of the BT defence is “excused”), the BT is saved in the UIS and the student defends it on another FSE date.
- **the BT defence** starts with the student briefly introducing their thesis for about 10 minutes – objectives, methodology, results, contributions and the application of the thesis. The presentation should be prepared in PowerPoint or in a similar program. The supervisor then provides a statement, the opponent provides a statement, the supervisor and the opponent ask questions and there is a discussion in the committee.

10. Evaluation of the bachelor thesis

10.1 Classification grade – excellent

The thesis has no deficiencies in the content and is objectively correct. The thesis has its own opinion with regard to the content and critical evaluation. It may contain minor formal deficiencies but the recommended scope, minimum number of references and the formal aspect of citations have been met. The thesis is structured in an excellent way: a specific idea is developed and analysed on a solid (and broader) theoretical foundation and contains basic reasoning formerly analysed in scientific literature under WOS and other sources relevant to the given topic (e.g. Zoological record). The study is concluded with a critical evaluation and possible starting points for follow-up research.

10.2 Classification grade – very good

The thesis may contain minor formal deficiencies but the recommended scope and number of references have been met. However, the thesis lacks its own ideas and critical evaluation of the published opinions, but it is still structured in a corresponding way. There are individual comments to the accuracy of the solution or to the fulfilment of the objectives, or more serious comments to the formal or stylistic aspect.

10.3 Classification grade – good

The thesis contains serious formal and content deficiencies. The author has not proven the ability to work with literature, has not met the minimum requirements for the scope and number of references, but the thesis has its own idea. There is insufficient quality of data processing in the case of experiments or processing data from databases.

10.4 Classification grade – failed

The thesis contains very substantial deficiencies. For example, the objectives have not been fulfilled, the solution does not comply with the assignment, the solution is low quality or completely incorrect, the instructions regarding the formal aspect of the thesis have been neglected, the language style does not correspond with a scientific text. The student has not manifested the ability to elaborate scientific work or the ability to describe it in a desirable way. Plagiarisms are also evaluated with this grade.

11. Bachelor thesis – research

11.1 Binder and cover sheet (see Chapter 3.2.1)

11.2 Bachelor thesis assignment (see Chapter 3.2.2)

11.3 BT author's statement (see Chapter 3.2.3)

11.4 Abstract, key words (see Chapter 3.2.4)

11.5 BT Table of Contents (with references to page numbers) (see Chapter 3.2.5)

11.6 Introduction (see Chapter 3.2.6)

11.7 Objectives of the thesis (see Chapter 3.2.7)

11.8 Literary research

Literary research analyses what facts are already known and on the other hand, what is not known. The text may also include various approaches used to resolve the area of concern. The thesis may have a methodological character, but it shall be obvious whether the primary objective of the research is to analyse methodology or an objective topic. The research shall also include the author's own opinion and critical evaluation of what future research could focus on.

It is highly recommended to include one's own pilot observation, selection of localities, recommendation on how to collect and assess data for future DT.

11.9 Final evaluation

In this chapter, the student compares the outcomes from the literary research in a real environment. It shall include the author's own opinion and critical evaluation of what future research

could focus on. It is highly recommended to include one's own pilot observation, selection of localities, recommendation on how to collect and assess data for future DT.

11.10 *Discussion (see Chapter 3.2.10)*

11.11 *Conclusion and contribution of the thesis (see Chapter 3.2.11)*

11.12 *Bibliography (see Chapter 3.2.12)*

11.13 *Appendices (see Chapter 3.2.13)*

12. Bachelor thesis – study type, study project

12.1 *Binder and cover sheet (see Chapter 3.2.1)*

12.2 *Bachelor thesis assignment (see Chapter 3.2.2)*

12.3 *BT author's statement (see Chapter 3.2.3)*

12.4 *Abstract, key words (see Chapter 3.2.4)*

12.5 *BT Table of Contents (with references to page numbers) (see Chapter 3.2.5)*

12.6 *Introduction (see Chapter 3.2.6)*

12.7 *Objectives of the thesis (see Chapter 3.2.7)*

12.8 *Literary research*

Literary research should provide a coherent overview of the current knowledge in the discussed area, synthesise the knowledge of the discussed matter, compare various views of the discussed matter, assess and confront the approaches of individual authors. The chapter is based on scientific literature.

12.9 *Characteristics of the study area*

In this chapter, the student introduces the selected study area, its properties (paedological, geological, fauna, flora, etc.). For better orientation, the student includes a map of the country with a clearly marked study area and a map of broader relations.

12.10 *Methodology*

In this chapter, it is very important to describe the methods of data collection and the methods of data analyses, to characterise the used groundwork (especially maps) so that the reader can

assess both the seriousness of the groundwork material and the systematic and objective value of the stated conclusions.

12.11 *Current state of play*

This chapter describes the current state of the issue from the student basis – the development of the state of affairs in the interest area, definition of basic areas to be resolved, etc.

12.12 *Results (proposal) (see Chapter 3.2.9)*

In this chapter, the student compares the outcomes from the literary research in a real environment. It is highly recommended to include one's own pilot observation, selection of localities, recommendations on how to collect and assess data for a future DT.

12.13 *Discussion (see Chapter 3.2.10)*

The student can provide their own opinions on the inputs, results and procedure in this section (regarding quality, other options., etc.), and discusses (compares) the results and procedures of other authors. In this chapter, the student may assess what future research could focus on.

12.14 *Conclusion and contribution of the thesis (see Chapter 3.2.11)*

12.15 *Bibliography (see Chapter 3.2.12)*

12.16 *Appendices (see Chapter 3.2.13)*

13. Bachelor thesis – experimental BT or processing existing data

13.1 *Binder and cover sheet (see Chapter 3.2.1)*

13.2 *Bachelor thesis assignment (see Chapter 3.2.2)*

13.3 *BT author's statement (see Chapter 3.2.3)*

13.4 *Abstract, key words (see Chapter 3.2.4)*

13.5 *BT Table of Contents (with references to page numbers) (see Chapter 3.2.5)*

13.6 *Introduction (see Chapter 3.2.6)*

13.7 *Objectives of the thesis (see Chapter 3.2.7)*

13.8 *Literary research*

Literary research should provide a coherent overview of the current knowledge in the discussed area, synthesise the knowledge of the discussed matter, compare various views of the discussed matter, assess and confront the approaches of individual authors. The chapter is based on scientific literature. This chapter may be replaced with the Introduction after an agreement with the supervisor.

13.9 *Methodology*

The student shall describe each methodological step in detail and explain why it was used. Methodology shall be described in such detail so that it would be possible to repeat it based on the description. The student shows that they understand the given issue. Mere references to literature are definitely not sufficient. Methodology may also include a description of the area of interest. Methodology should be divided internally, as needed, into parts dealing with data collection, including the description of the sample size (number of measurements, etc.) and a trial plan, then by the method of (statistical) processing, including all the particulars (type and justification of the selected method to be used, data preparation, e.g., testing normalities and their transformations, statistical program including its version).

13.10 *Characteristics of the study area*

In this chapter, the student introduces the selected study area, its properties (paedological, geological, fauna, flora, etc.). For better orientation, the student includes a map of the country with a clearly marked study area and a map of broader relations. Alternatively, this chapter can be included in the methodological part.

13.11 *Results of the thesis (see Chapter 3.2.7)*

In this chapter, the student assesses the outcomes of the experiment or the results of data analyses.

13.12 *Discussion (see Chapter 3.2.10)*

The student can provide their own opinions on the inputs, results and procedure in this section (regarding quality, other options., etc.), and discusses (compares) the results and procedures of other authors. In this chapter, the student may assess what future research could focus on.

13.13 *Conclusion and contribution of the thesis (see Chapter 3.2.11)*

13.14 *Bibliography (see Chapter 3.2.12)*

13.15 *Appendices (see Chapter 3.2.13)*

14. Bachelor thesis – development of author’s software and information systems, advanced data analyses

The content of this type of BT is the development of specialised author’s software (or the creation of a specialised application using current software), a specialised information system or the use of GIS tools or mathematical and statistical methods for data analyses, dealing with the issue of a specific scientific field, methodological or experimental solution of a specific problem, the creation of a mathematical or data model for a specific process and so on. The thesis thematically concerns scientific disciplines or practical problems that are related to the environment. The actual requirements of the outcomes of the thesis are determined by the BT supervisor in the assignment. The thesis can include both the final outcomes (such as the software, a module for current software, simple information system with/without implementation) and a coherent basis for a future diploma thesis (analysis of the issue for the future creation of software, analysis of data sources and processes for a design of the structure and functionality of a simple information system, research of the methods for data processing for the issue in question supplemented with practical examples of their use, etc.). In the latter case, it is recommended (if the character of the assignment allows it) to include at least the first simple results, examples of possible outcomes, suggestions for further solutions, etc.

14.1 *Binder and cover sheet (see Chapter 3.2.1)*

14.2 *Bachelor thesis assignment (see Chapter 3.2.2)*

14.3 *BT author’s statement (see Chapter 3.2.3)*

14.4 *Abstract, key words (see Chapter 3.2.4)*

14.5 *BT Table of Contents (with references to page numbers) (see Chapter 3.2.5)*

14.6 *Introduction (see Chapter 3.2.6)*

14.7 *Objectives of the thesis (see Chapter 3.2.7)*

14.8 *Literary research*

Literary research for this type of BT can be minimal, or even omitted completely in exceptional cases (e.g. when the author’s solution is completely unique and only follows facts that are generally known in the given area).

14.9 *Input analysis of the problem resolution*

It is possible to include a chapter with a similar title and meaning. Unlike literary research, it does not need to state a series of literary research, it may describe a process of handling information in

the institution or field, it may be largely based on verbal information or studies of unpublished prints and specialised internet sources. It may otherwise state how the author reached the conclusion that it is not possible to create research fulfilling the purpose of the Literary research chapter.

14.10 Methodology

The student shall describe each methodological step in detail and explain why it was used. Methodology shall be described in such detail so that it would be possible to repeat it based on the description. The student shows that they understand the given issue. Mere references to literature are definitely not sufficient. Methodology may also include a description of the interest area. Methodology should be divided internally, as needed, into parts dealing with data collection, including the description of the sample size (number of measurements, etc.) and a trial plan, then by the method of (statistical) processing, including all the particulars (type and justification of the selected method to be used, data preparation, e.g., testing normalities and their transformations, statistical program including its version).

Methodology can have a minimal scope if the procedure of the solution is clearly implied by the “Input analysis of the problem resolution” chapter.

14.11 Characteristics of the study area

It does not have to be included when the thesis does not apply to a specific area.

14.12 Results of the thesis

The results of the thesis in accordance with Chapter 3.2.9 present substantial results. The chapter does not have to be extensive when the results are mostly data, SW, IS, etc., in a digital form and it is not possible to include them in the text for technical or extent reasons. However, the chapter should state, even in the aforementioned case, what is the main result, and it should refer to the corresponding files of the data carrier and describe the main functionality and contributions of the solution.

14.13 Discussion

The discussion does not necessarily have to compare the achieved results with literature if the specifics of the thesis do not allow for that. However, it should always contain the author’s opinions on the proposed solution, the originally considered alternatives and so on, i.e., when it is not possible to compare with publications, the author should at least discuss it themselves, with a prior unpublished solution, and describe the potential difficulties of the proposed solution. This approach and comparison with literature can be combined (naturally, in the discussion).

14.14 Conclusion (see Chapter 3.2.11)

14.15 Bibliography

The bibliography and the used sources can state less references in total than stipulated in Chapter 3.2.12. It is also possible to increase the number of internet sources and to decrease the number of foreign sources (e.g. when the solution concerns a problem specific to the Czech Republic).

14.16 Appendices (see Chapter 3.2.13)

The structure may be supplemented with other chapters if the specifics of the thesis require that.

In spite of such possible modifications, it must always be obvious from the text what the author has adapted and what is their own solution. The justification of all changes is assessed by the supervisor and any changes need to be consulted with the supervisor.

15. Bachelor thesis – inventory survey

15.1 Binder and cover sheet (see Chapter 3.2.1)

15.2 Bachelor thesis assignment (see Chapter 3.2.2)

15.3 BT author's statement (see Chapter 3.2.3)

15.4 Abstract, key words (see Chapter 3.2.4)

15.5 BT Table of Contents (with references to page numbers) (see Chapter 3.2.5)

15.6 Introduction (see Chapter 3.2.6)

15.7 Objectives of the thesis (see Chapter 3.2.7)

15.8 Literary research

Literary research should provide a coherent overview of the current knowledge in the discussed area, synthesise the knowledge of the discussed matter, compare various views of the discussed matter, assess and confront the approaches of individual authors. The chapter is based on scientific literature.

15.9 Characteristics of the study area

In this chapter, the student introduces the selected study area, its properties (paedological, geological, fauna, flora, etc.). For better orientation, the student includes a map of the country with a clearly marked study area and a map of broader relations.

15.10 Methodology

In this chapter, it is very important to describe the methods of data collection and the methods of data analyses, to characterise the used groundwork (especially maps) so that the reader can assess both the seriousness of the groundwork material and the systematic and objective value of the stated conclusions.

15.11 Current state of play

It is required to describe the current state of play that the student arises from.

15.12 Results, management proposal

In this chapter, the possible alternatives of the problem resolution or the evaluation of the assessment of the proposed intention shall be outlined.

15.13 Discussion (see Chapter 3.2.10)

15.14 Conclusion (see Chapter 3.2.11)

15.15 Bibliography (see Chapter 3.2.12)

15.16 Appendices (see Chapter 3.2.13)

16. List of important websites

Faculty website	http://www.fzp.czu.cz/
University information system	http://is.czu.cz/
Student mail web interface	http://mail.studenti.czu.cz/
CZU Library	http://www.sic.czu.cz/
Manuals for students	https://www.oikt.czu.cz/cs/r-12873-navody-a-dokumenty

17. Appendices – Binder, cover sheet, statement, acknowledgement

It is recommended to include the denomination of the thesis (bachelor/diploma), name and year on the back of the bound thesis.

ČESKÁ ZEMĚDĚLSKÁ UNIVERZITA V PRAZE
FAKULTA ŽIVOTNÍHO PROSTŘEDÍ

BAKALÁŘSKÁ PRÁCE

XXXX Jméno a přímení autora

ČESKÁ ZEMĚDĚLSKÁ UNIVERZITA V PRAZE
FAKULTA ŽIVOTNÍHO PROSTŘEDÍ
KATEDRA xxxx

XXXXXXXXXXXXXXXXXXXXXXXXXXXX
BAKALÁŘSKÁ PRÁCE

Vedoucí práce: XXX XXXXXX
Bakalant: XXX XXXXXX

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