



**THE MINISTRY OF EDUCATION AND RESEARCH  
"1 DECEMBRIE 1918" UNIVERSITY OF ALBA IULIA  
THE FACULTY OF INFORMATICS AND ENGINEERING  
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**GUIDELINES FOR ELABORATION AND  
PRESENTATION OF THE BACHELOR THESIS**

**2025**

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## Part I: Finding a topic and scientific supervisor

The preparation of the bachelor's thesis is done under the guidance of a scientific supervisor. The scientific supervisor is a specialized teaching staff with the scientific title of doctor. Since the development of the thesis involves a relatively long period for documentation and writing, students must choose their topic and scientific supervisor in due time.

For the selection of topic and scientific supervisor, it should be considered that the topics and supervisors are established at the end of the penultimate year of study for each degree program. Until 15 November of the last year of study, the students must submit a request to the Department Secretary, mentioning the thesis title and the scientific supervisor. The application must be signed by the supervisor before submission. For a good cooperation with the chosen supervisor, you should take into consideration your previous experience with them, the communication and mutual appreciation.

When you choose your topic, you should consider your interests and abilities, the theoretical and technical documentation possibilities as well as employment opportunities. The list of topics proposed by the teaching staff is not restrictive. It is generally possible that you propose a topic yourself. The potential supervisor will then evaluate the proposed topic in order to make sure that it fits into the scope and frame of a bachelor thesis, and you can work on this topic once you get his approval.

For formulating the title of the thesis, the concrete identification of the domain as well as the desired implementation must be considered. Here are some examples:

- Development of intelligent data mining agents for efficient information search on the Web.
- Graphics in web applications: methods and tools for creating graphics of various types.
- Replication of large databases in distributed environments.

## Part II: The structure of bachelor thesis

The bachelor thesis should be organized in chapters and should include the following:

1. *Cover* - information that must appear on the cover of the bachelor thesis (Appendix 1).
2. *Title page* - information to appear on the title page of the bachelor thesis (Appendix 2).
3. *Table of contents* - the bachelor thesis will have a TOC containing at least the titles of all chapters accompanied by the page number on which each chapter begin.
4. *Introduction* - will contain the motivation for choosing the topic, the general objectives of the work, the research methodology used, the possible limits of the work (data confidentiality, lack of access to some bibliographic reference sources etc.). The introduction is not numbered as a chapter.
5. *Chapters* - the bachelor thesis will contain chapters numbered in ascending order. It is recommended that you have some chapters presenting the main concepts in the domain of your topic (as defined in books, academic articles and other sources) and some chapters describing your own work (architecture and other design aspects as well as implementation of your application). You can also include code examples and screenshots of your user interface (if you have one).
6. *Conclusions* - should summarize concrete observations that the graduate has reached as a result of individual study and implementation of the application. It is acceptable to restate certain ideas already presented in the theoretical part and put them in the context of the application/implementation (e.g. clarify which of the studied algorithms / libraries / approaches are better in which situations, what are the challenges / difficulties you encountered during implementation and what are the solutions). The conclusions of the project are not numbered as a chapter.
7. *Bibliography* - is the last part of the project and will contain the list of all sources of information used by the student for writing the bachelor thesis. The bibliography will not be numbered as a chapter of the paper (see the example in Appendix 4).

## Part III: Editing rules

The thesis can be printed either on only one side of each sheet, or on both sides, in which case you should note the following:

- Do not print anything on the back side of the title page (or the cover)
- The Table of Contents as well as each chapter should start on a new odd page (3, 5, 7 etc) even if you leave blank pages (if a chapter ends on page 23, then page 24 should be blank, and the next chapter should start on page 25).

The format of the work is A4 (not Letter), the recommended number of pages is between 40 and 70, with the following elements:

- *Page margins* - the following values will be used for page margins (Page Setup -> Margins): left: 2.5 cm; right: 2 cm; top: 2 cm; bottom: 2 cm; header: 1.25; footer: 1.25.
- *Spacing between lines* - the text will respect a spacing between lines of 1.5 lines (Format -> Paragraph -> Line spacing -> 1.5 lines).
- *Text alignment* - text within normal paragraphs will be aligned between the left and right margins (justified). The first line of each paragraph will have an indentation of 1.25 cm (Format -> Paragraph -> Indentation -> Left). Exceptions are chapter titles, which will be centered, as well as table and figure labels. The titles of the chapters will be written in bold, centered with capital letters; the headings of the paragraphs will be written in bold, centered with small letters. One free line is left between the titles of chapters, paragraphs and the body of the text. Excessive underlining, bolding or italics of the text should be avoided.
- *Font* - the font and size used for writing will be Times New Roman 12.
- *Page numbering* - is done starting with the title page, until the last page of the work, excluding the appendices. The page number is inserted at the bottom of the page, centered. The page number does not appear on the title page.
- *Tables* - tables are numbered consecutively. Each table has a title, stated immediately below the table, aligned centered (and includes the number). E.g. Table 1: Table title.
- *Figures* (images, graphs, screenshots) - are numbered consecutively. Each figure has a title, which is mentioned immediately below the figure, centered (and includes the number) E.g. Figure 1: Figure title.

## Bibliography and citation rules

For the theoretical part we need to use an appropriate bibliography. It is recommended to use recent books and articles from the last five years (with the exception of reference works in the field which may be older). In general, a bachelor thesis should have at least 10 bibliographic sources, half of which should be books or scientific articles (not just web pages).

Making citations has two parts – marking the reference in the text and detailing the reference in the bibliography area. It is not correct to just put the bibliography at the end without a clear relationship to a specific area in the text. As a basic rule, any idea that is taken from an external source must be linked to a bibliographic reference, otherwise it can be considered plagiarism.

Marking in the text is done using consecutive numbers written in square brackets, according to the IEEE standard ([more details here](#)). In the bibliography part, the numbers will then be entered (also in square brackets) and the source will be detailed.

### Examples of references

- Web scraping is recognized as an effective and powerful big data collection technique [1].
- Angular [2], [3] also includes a full set of built-in tools and features, such as reactive forms, advanced routing, and a powerful CLI that simplifies application development and building processes.

### Exemplars of entries in the bibliography

[1] J. Bar-Ilan, "Data collection methods on the web for infometric purposes – A review and analysis," *Scientometrics*, pp. 7-32, 2001.

[2] "What is Angular?" <https://angular.dev/overview> [Accessed - October 2024].

[3] M. Gechev, "Introducing Angular v17". *Angular Blog*, 2023, <https://blog.angular.dev/introducing-angular-v17-4d7033312e4b> [Accessed - September 2024].

### Remarks:

1. If a paragraph needs to be linked to more than one source, put all the numbers in brackets, separated by a comma. E.g.: "as studies [4], [5], [6] show, the system is...".
2. In the bibliography, the sources must be presented in the following form: Author, "Title", *Publication*, year.
3. The names of the authors are written with the initial of the first name and then the last name (e.g. C. Cucu). If there are several authors, separate them with a comma and at the end with "and". E.g., C. Cucu, M. Popescu and V. Ionescu.
4. The title of articles / books / chapters is written between quotation marks.
5. The name of the publication (magazine) is written in *italics*.
6. For online articles, add the formula [Accessed - DATE] at the end.
7. If certain information is missing (author or publication, it will be omitted).

For more details, go to [the page here](#) or search IEEE citations online.

## Part IV: Presentation rules

Presenting the thesis to the examination committee is as important as writing it. The final grade represents both the result of the evaluation of the thesis by the supervisor and the result of the commission's evaluation, following its presentation by the graduate.

Rules for presentation and support of the bachelor thesis:

- Graduates will be notified of the date, time and location where they will present their bachelor thesis to the committee. Failure of the graduate to appear at the established date, time and location will result in his/her removal from the bachelor exam. The maximum presentation time is ten minutes.
- It is recommended to use a PowerPoint (or other type of) presentation as support, but it is essential that the graduate speaks freely, and does not read from slides or any notes.
- The presentation must include:
  - A title slide, showing the topic, author and supervisor.
  - A table of contents slide, which shows what the presentation will include.
  - 6 – 8 slides of content, showing the essential points of the thesis, starting from the definition of the field and main concepts, then showing the graduate's own work (experiments, implementations, tests).
  - A conclusion slide.

*Attention, the presentation must contain synthesized main ideas and demonstrate the ability of the graduate, no paragraphs from the work are copied!*

Committee members can ask the graduate any number of questions regarding the subject of the bachelor's thesis and/or the methodology and resources used.

# Part V: Evaluation of the bachelor thesis

In order to evaluate the unitary evaluation of the bachelor's theses, the following form is used, which will be drawn up by the supervisor:

"1 DECEMBRIE 1918" UNIVERSITY OF ALBA IULIA  
 THE FACULTY OF INFORMATICS AND ENGINEERING  
 MAJOR  
 FORM OF EDUCATION  
 DEGREE/DIPLOMA/DISSERTATION SESSION

## DEGREE/DIPLOMA THESIS ASSESSMENT SHEET

Graduate: \_\_\_\_\_

Bachelor's thesis topic: \_\_\_\_\_

Scientific supervisor: \_\_\_\_\_

Item no.	CRITERIA	QUANTIFICATION <sup>1</sup>									
		1	2	3	4	5	6	7	8	9	10
1	The importance and complexity of the topic:	1	2	3	4	5	6	7	8	9	10
2	Structure:	1	2	3	4	5	6	7	8	9	10
3	The scientific content:	1	2	3	4	5	6	7	8	9	10
4	Elaboration of the work:	1	2	3	4	5	6	7	8	9	10
5	Originality:	1	2	3	4	5	6	7	8	9	10
6	Practical application:	1	2	3	4	5	6	7	8	9	10
7	Actuality:	1	2	3	4	5	6	7	8	9	10
8	Typewriting:	1	2	3	4	5	6	7	8	9	10
9	Bibliography:	1	2	3	4	5	6	7	8	9	10
10	Conclusions:	1	2	3	4	5	6	7	8	9	10
<b>Final grade</b> (Average criteria scores)											

**Conclusions:** I propose the (admission/rejection) of the bachelor's thesis to be presented to the board of the bachelor's exam.

The grade proposed by the supervisor: \_\_\_\_\_

DATE

SCIENTIFIC SUPERVISOR

<sup>1</sup> Circle the grade given for each criteria

The criteria considered for the evaluation of the bachelor thesis are detailed as follows:

**1. The importance of the topic and the structure of the project:**

- a. *actuality and treatment*: the information presented corresponds to the current moment, it is also addressed in other research works.

Writing the paper in *an impersonal academic language* is appreciated, grammatical mistakes should be avoided. The ideas presented must flow logically and coherently from the previous ones.

- b. *structure of the paper*: the topic must be structured in chapters, focusing on the following aspects: introduction - presentation of the main concepts in the chosen field - documentation of the special elements studied - presentation of the implementation / application / own experiments - conclusions.

**2. The scientific content:**

- a. *The complexity of the theme*: the relevance of the chosen theoretical benchmarks, the clear definition of concepts, ideas, theories. Certain theses have a more theoretical character, while others are more practical. In general, computer science projects will involve a practical application, although theoretical/experimental research is possible (consult with your supervisor for details).

- b. *The methodological approach*: methodology provides us with rules, norms, methods, techniques by which we can know "how to do" and "how to apply" something we know or have learned, how to go from a vague idea, from a hypothesis to a solution. In research the aim is to achieve a goal.

- c. *Applicability*: bachelor projects must demonstrate the possibility of being useful in the real world, even if the applications do not reach "commercial" level (a complete and final version).

**3. Elaboration of the work:**

- a. *Special documentation*: the documentation is representative of the topic in question, includes fundamental books, scientific articles, websites, etc.

- b. *Rhythmicity in writing*: compliance with the schedule of meetings with the thesis supervisor and the completion of the bachelor's thesis in stages.

- c. *Personal contribution*: the ability to synthesize the field (e.g. comparison of some libraries, extensive presentation of the types or categories of algorithms / approaches to the subject), own implementation related to the theoretical study.

**4. Typewriting:**

- a. *Aesthetics and graphic design*: the work complies with the technical editing rules specified previously, presents a neat appearance, the text is written without spelling or grammatical errors.

- b. *Order and unity*: the work must clearly identify chapters, subchapters, sections and these must be formatted consistently (titles written the same way); it is recommended to use the styles from Word (Heading1, Heading2 etc.).

**5. Bibliography:**

- a. *magnitude and actuality*: the graduate must use sources of information relevant to



the topic area. The individual study is an important stage of the work and must result in a synthesis of the approaches, theories, concepts described by other authors (in books, scientific articles or web pages). The bibliography must be as comprehensive as possible and contain up-to-date bibliographical sources (older sources are also accepted if they are considered fundamental in the field, otherwise the focus will be on the last 5 years).

- b. *citation*: the paper must contain bibliographic references within the chapters and not just at the end of the paper, as shown in Part III of this guide. This step is essential, especially since the works are checked in anti-plagiarism systems.

## **6. Conclusions:**

- a. *Concrete and coherent*: must summarize concrete observations that the graduate has reached as a result of individual study and implementation of the application as stated in part II of the current guide.
- b. *original elements*: underline in the conclusions some ideas that result from the synthesis and implementation, and that are not taken from other sources.

*Appendix 1 – Cover of the thesis*

THE MINISTRY OF EDUCATION AND RESEARCH  
“1 DECEMBRIE 1918” UNIVERSITY OF ALBA IULIA  
THE FACULTY OF INFORMATICS AND ENGINEERING  
COMPUTER SCIENCE  
FULL-TIME DEGREE PROGRAM

# BACHELOR THESIS

COORDINATOR:  
Position Title<sup>2</sup> **Firstname Lastname**

GRADUATE:  
**Firstname Lastname**

ALBA IULIA  
2025

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<sup>2</sup> EG. Prof. Phd.

*Anexa nr. 2 – Title page of the thesis (after the cover, there should be a title page):*

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COMPUTER SCIENCE  
FULL-TIME DEGREE PROGRAM

# **TITLE OF THE THESIS**

COORDINATOR:  
Position Title<sup>3</sup> **Firstname Lastname**

GRADUATE:  
**Firstname Lastname**

ALBA IULIA  
2025

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<sup>3</sup> EG. Prof. Phd.