



Master's Thesis

Field of study: Architecture

Methodological Guide for Thesis Students

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Abstract

A methodological guide discussing the fundamental issues related to the preparation of a master's diploma thesis — from selecting a thesis supervisor to the diploma defense at the Faculty of Architecture of the Poznań University of Technology.

The guide is a continuously developed and updated handbook containing the current guidelines, procedures, and formal requirements for master's diploma theses carried out at the Faculty of Architecture of the Poznań University of Technology.

It has been prepared on the basis of: the Act 2.0 (Law on Higher Education and Science of July 18, 2018, published in the Journal of Laws, item 1668, of August 30, 2018) and the Regulation of the Minister of Science and Higher Education of July 18, 2019, on the standards of education preparing for the profession of architect (item 1359), as well as based on the Regulations of Studies of the Poznań University of Technology and the second-cycle study program in Architecture.

The present study is also intended to serve as an aid for supervisors and reviewers, helping to standardize criteria (and enforce requirements) for master's thesis students.

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1. Purpose of the thesis

A master's thesis is a summary of the entire second-cycle program of study. It is problem-based in nature, with an emphasis on creative solutions to issues identified in the thesis topic. The thesis should address complex problems utilizing general and specialized knowledge, employing theoretical and empirical research methods. The thesis is conducted in the field of architecture and urban planning. The thesis should include information on the literature used and the research methods employed. The summary should include a separate specification of the author's original contribution to the work. The final result of the thesis and the subject of the defense should be an architectural, urban planning, or conservation project. Other forms of the thesis, such as film, performance, installation, etc., are also acceptable as supplementary work, allowing the student to fully demonstrate their creative potential.

A master's thesis is a project-research project in which the student presents urban, architectural, construction, and other industry-specific design solutions, appropriate to the knowledge and learning outcomes acquired throughout the second-cycle program, including research competencies. Please note that the master's thesis must be prepared independently. It cannot misappropriate the authorship of another person's work or parts thereof, either in the written or graphic sections. The issue of plagiarism is discussed later in this guide (see **Appendix 3**).

The master's thesis serves as confirmation of the achieved learning outcomes, in accordance with the educational standard preparing for the architectural profession¹:

In terms of knowledge, the graduate knows and understands:

- D.W1. detailed issues related to architecture and urban planning in solving complex design problems;
- D.W2. advanced issues related to architecture and urban planning useful for designing architectural structures and urban complexes in the context of social, cultural, natural, historical, economic, legal, and other non-technical conditions of engineering activities, integrating knowledge acquired during their studies;
- D.W3. principles, solutions, structures, and building materials used in the performance of engineering tasks in the field of architectural and urban design;
- D.W4. Issues related to architecture and urban planning in the context of the multidisciplinary nature of architectural and urban design and the need for collaboration with other specialists;
- D.W5. Principles of professional presentation of architectural and urban concepts.

In terms of skills, graduates are able to:

- D.U1. critically analyze existing conditions, evaluate the state of land use and development, and formulate design conclusions in a complex, interdisciplinary context;
- D.U2. design a complex architectural structure or urban complex, creating and transforming space to imbue it with new values – in accordance with the adopted program, taking into account non-technical aspects and integrating interdisciplinary knowledge and skills acquired during their studies;

¹ REGULATION OF THE MINISTER OF SCIENCE AND HIGHER EDUCATION¹) of July 18, 2019, regarding the standard of education preparing for the profession of architect.

D.U3. prepare advanced graphic, written, and oral presentations of their own design concepts in the field of architecture and urban planning, meeting the requirements of professional notation appropriate for architectural and urban design;

D.U4. utilize analytical methods to formulate and solve design problems;

D.U5. present the theoretical background and justification for the presented solutions in the form of a scientific study;

D.U6. organize work, taking into account all phases of work on a design concept.

In terms of social competences, graduates are ready to:

D.S1. Effectively use imagination, intuition, a creative attitude, and independent thinking to solve complex design problems;

D.S2. Public speaking and presentations;

D.S3. Accept criticism of the solutions presented and respond to it clearly and objectively, also using arguments that draw on the achievements of the scientific discipline, as well as using this criticism creatively and constructively;

D.S4. Formulate and communicate to the public information and opinions regarding the achievements of architecture and urban planning, their complex conditions, and other aspects of the architect's activity; conveying opinions in a generally understandable manner;

D.S5. Properly prioritize activities aimed at completing the task.

It is important to remember that the master's degree should provide practical confirmation of the graduate's creative design capabilities and ability to solve simple research problems.

A detailed description of the degree process is included in the document: Procedure – Diploma Process.

2. Activities preceding thesis work

2.1. Selecting a thesis supervisor

At the final meeting preceding the selection of a thesis supervisor, the Vice-Dean presents the Faculty Council with a list of supervisors for approval, in accordance with the Regulations in force at the Faculty of Architecture, Poznań University of Technology. The supervisor is selected no later than one month before the end of the semester preceding the diploma semester.

The supervisor is selected in a dedicated course on the ekursy.put.poznan.pl platform, according to the schedule posted on the website:

- The student uploads their portfolio to the assignment module and selects a supervisor from the list of available supervisors.
- The supervisor approves or rejects the student.
- A student whose selection is not approved by a given supervisor has the right to participate in the next selection round.

The supervisor selection schedule includes three selection rounds. Supervisors whose quota of places has been reached are not available in the next round. After the specified period ends, the student who is not accepted is randomly assigned to an available supervisor.

2.2. Choosing a Thesis Topic

In second-cycle studies, students are expected to select and develop their own thesis topic and team topics.

The master's thesis topic is selected in consultation with the supervisor and should address current issues related to architectural, urban planning, or conservation design. The student should confirm the ability to obtain the necessary materials for its completion. Difficulties in obtaining materials are not grounds for extending the thesis completion time.

The topic can be a current or completed architectural competition, domestic or international – this fact should be noted in the thesis topic sheet. The thesis supervisor is responsible for verifying the competition terms and their adaptation to the requirements appropriate for a master's thesis. The supervisor should ensure that the competition process and its results do not affect the substantive quality of the thesis and that no doubts arise regarding the authorship of the thesis. In the event of any doubts regarding the thesis's own thesis topic, the Dean makes the final decision.

The thesis topic should be designated before the beginning of the thesis semester. The topic is submitted via the APD system, which manages the diploma process and the archiving of diploma theses (APD), and operates within the USOS environment. Within the APD system, the thesis supervisor and the interested student submit a proposed diploma topic (no later than the end of the semester preceding the diploma semester). This is then reviewed and approved by a three-person committee consisting of the Vice-Dean for Education, the Institute Director (who, depending on the thesis supervisor's place of employment, is responsible for verifying the substantive accuracy of the submitted topic), and the Institute Secretary's Office (verifying data accuracy). Topics must be submitted via the APD system no later than the beginning of the diploma semester.

The application must include the thesis title (PL and EN) and a description of the planned project activities, a list of starting materials, and the scope of the diploma thesis (written section, graphic section, layout).

3. Scope of the Diploma Thesis

The diploma thesis consists of two parts: a graphic section in the form of boards and a written section in the form of a concise study.

Both parts are mandatory and constitute the entire diploma thesis. The graduate prepares a written thesis and a graphic section in digital format. Additionally, the boards should be printed on a rigid board and delivered to the Faculty of Architecture at the Faculty of Architecture on a designated date (the date and location are determined in each semester's diploma semester schedule). All boards are presented as part of a joint review of the diploma theses, attended by the entire faculty of the Faculty of Architecture. This review serves both as a tool for objective evaluation and as a stage for recommending the best works for competitions and exhibitions.

The graduate also creates a working model of the designed facility, including its immediate context.

The graduate uploads photos of the model along with the diploma thesis to the USOS APD system.

3.1. Written part

The written part should be an estimated 80-120 pages in A4 format, vertically oriented. The number of pages may be increased in justified cases and after consultation with the thesis supervisor.

The graduate is not required to print the thesis. The master's thesis should be uploaded to the USOS APD system (in PDF format) within the deadline specified in the Study Regulations of the Poznań University of Technology. After submitting the thesis, it is automatically transferred to the Unified Anti-plagiarism System (JSA). After receiving the results of the anti-plagiarism analysis and verifying the completeness of the uploaded files by the graduate, the supervisor accepts the thesis in the system, which formally constitutes its submission. After the deadline for submission, the Vice-Dean for Education establishes a defence schedule in accordance with the rules specified in the Study Regulations. The supervisor and reviewer enter their reviews and ratings into the USOS APD system; once approved, the student has the opportunity to review their content.

List of essential elements of a written part:

- Title page according to the template (template: **Appendix No. 1**),
- Table of contents,
- **Abstract** of the thesis in Polish and English,
- **Introduction** – contains the justification for the chosen topic, the subject and purpose of the thesis, an indication of the research methods used, as well as the state of research, i.e., a description of the sources used and a brief description of the content presented in the remaining parts of the thesis,
- **Research section** – should be a scientific study, thematically related to the topic of the thesis. In this section, the candidate should demonstrate a basic understanding of research methodology in the discipline of architecture and urban planning and the method of its presentation. The precise scope of the research section should be agreed upon with the thesis supervisor.
- **Analytical section** – contains the necessary analyses resulting from the nature of the thesis, building height, function, greenery, communication, composition and character of existing buildings, etc. A graphical solution to the analytical part is permitted (on the

first board presented); their placement is not mandatory and is left to the student's discretion.

- **A descriptive part** – containing a description of the project: the main assumptions, including a description of the basic conceptual, aesthetic, compositional, and functional solutions, including a land development plan (graphic and written parts) with a clear legend and a surface balance sheet containing (among other things) the plot/area area, built-up area, % of development, net intensity, total area, net area, usable area, volume, number and type of apartments (in the case of a residential building), number of parking spaces (including on-site and underground parking) at a scale of 1:500. The descriptive part should also explain the building's accessibility for people with disabilities (universal design), indicate the climate-friendly solutions used, and indicate the technical and installation solutions adopted.

The description depends on the nature of the work. In the case of a problematic or conceptual topic, it will include a description of the idea and its nature to a greater extent. In the case of a more specific study, it should also include a description of the technical solutions adopted in the work; it should include the most important material and technological solutions for individual building elements, fire protection principles, and a discussion of basic structural and installation solutions. It should include material and technological solutions, balances, fire protection principles, and solutions for structures, installations, roads, infrastructure, energy savings, etc.

The scope and content of the descriptive section should be individually agreed upon with the supervisor.

- **Summary** – containing a synthetic summary of the results obtained and a critical review of the research and design process
- **List of illustrations** (with sources cited), including photographs, drawings, sketches, etc.
- **List of tables** (if applicable)
- **Bibliography** – a system for citing and creating bibliographies – the traditional (Oxford) system is recommended (to be agreed with the supervisor, see **Appendix 2**)
- Thumbnail boards, i.e. boards that reduce the graphic part to A4 format
- **Annexes** – including additional attachments that, due to their size or nature, do not fit within the main body of the thesis, as well as other elements that influence the presentation of the thesis's results (e.g., a survey template, an excerpt and extract from the local zoning plan, a "white sheet," etc.)

Text editing should comply with accepted norms and standards for thesis work in terms of font selection and size (max. 12 points) and line spacing (1.15 or 1.5). The font used should be easy to read (Arial, Times, Calibri, etc.). It is recommended to use a black font.

Chapters and subchapters should be graphically separated. The work should demonstrate the ability to use bibliographic references. All citations and photographs should be described and the source cited.

3.2. Graphic part

The graphic portion of the thesis should be presented on 6-8 vertically arranged 100x70 boards (up to a maximum of 12 for complex topics). The boards should be stiffened to facilitate presentation (e.g., printed on foam). The number of boards may be increased with the thesis supervisor's approval.

The boards should include:

- site development plan (graphic part with legend and site balance, all markings, and the content of the PZT should comply with applicable law), scale 1:500

- floor plans of all above-ground and underground floors, along with a list of rooms and a roof plan. The scale depends on the scope of the thesis – to be agreed with the thesis supervisor. Permissible scales: from 1:200 to 1:50
- at least two cross-sections, taken in characteristic locations (vertical circulation), the scale depends on the scope of the thesis – to be agreed with the thesis supervisor. Permissible scales: from 1:200 to 1:50
- designed elevations (if required by the thesis topic, elevations should be compared with existing buildings)
- axonometric drawings (minimum one, maximum three) spatially illustrating the building or building complex
- architectural or urban detail with technical solutions (in a scale of 1:20, 1:10, 1:5). The detail should address a specific section of the designed building – do not exaggerate construction details found in literature or the internet.
- Visualizations of the project, showing its scale, the context of the existing development, the designed materials, and the building's color scheme.
- Necessary descriptions and textual information

Additionally, the boards may include elements presented in the written section, such as analyses, diagrams, etc. Each board should be marked with a sequential number, clearly indicating the board's layout and composition. The graphic layout of all boards should be legible, consistent, and consistent with the principles of proper graphic composition.

Each board must include:

- title of the work
- author's name and surname
- academic degree or title, name and surname of the supervisor
- name of the faculty and university
- date of completion.

3.3. Model

The candidate will discuss the scale of the model, its level of detail, and the technique used with the thesis supervisor.

The candidate will deliver the actual model to the Faculty on the day of the defence.

The model should be made by the candidate himself; models created by professional agencies are not acceptable. It should be a working model – a scope that allows for the assessment of the adopted formal and compositional solutions within the immediate context of the study area.

4. Activities to complete your diploma work

4.1. Submitting a diploma thesis – USOS APD system

At the Faculty of Architecture, University of Applied Sciences (WA PP), the entire diploma process is conducted in the APD system.

After the thesis topic submission is approved by the relevant committee, the submissions are transferred to the Dean's Office module, where the thesis is created. This is the first step in preparing for the diploma examination. From this point on, the thesis topic cannot be changed. When the supervisor determines that the student's thesis is ready for the diploma examination, they submit a thesis form to the APD system for the student to enter data and files. The student completes the abstract and keywords in both Polish and English.

After saving the entered data, the student declares that they wrote the thesis independently through approval.

The thesis is submitted electronically. The thesis submission deadline is considered the date the thesis is approved by the Supervisor. If the thesis is uploaded on time and the thesis is approved by the Supervisor later, the thesis must submit a request to the Dean's Office for an extension of the thesis submission deadline, along with an explanation.

Uniform Anti-plagiarism System – JSA

After submitting the thesis, it is automatically transferred to the Unified Anti-plagiarism System (JSA). The waiting time for the results of the plagiarism check is approximately 12-48 hours, depending on server activity. **The candidate should take into account the time needed for the thesis review, analysis, and approval of the results, and upload the thesis well in advance of the statutory submission deadline.** After completing the review, the Supervisor informs the candidate of the result. If the thesis' similarity is greater than 60%, the Supervisor is required to provide a written justification for approving the thesis for defence. The candidate has the right to replace the files twice, provided the thesis has not been accepted by the Supervisor in the system. In each case, the thesis is re-checked by the JSA. (The candidate should take into account the system's uptime – therefore, a safe time for uploading the finished thesis is approximately 3-4 days before the submission deadline). The graduate student also uploads graphic attachments to the system:

- thesis boards - vertical format 100x70, each board in a separate file, resolution: 300 dpi, file size: up to 20 MB,
- photos of the mock-up or visualizations of the virtual model
- a declaration of consent to participate in competitions.

The supervisor receives an email informing them of the pending anti-plagiarism check results in the APD system. Before approving the thesis, the supervisor should ensure that the final version of the thesis is available in the system, verify that all graphic attachments have been uploaded, that the uploaded files are complete, and that they open correctly.

The absence of graphic attachments prevents the thesis from being defended.

The date of acceptance of the JSA results is considered the date of the thesis submission, in accordance with the Study Regulations. The graduate student should take into account the time needed for the thesis review, analysis, and acceptance of the results, and upload the thesis well in advance of the statutory thesis submission deadline. It is assumed that a safe deadline is approximately 48 hours.

After the deadline for submitting theses and the thesis supervisor's approval, the Vice-Dean establishes a defence schedule (date, time, and committee composition) in accordance with the rules set forth in the Study Regulations. The supervisor and reviewer enter their reviews and ratings into the USOS APD system; once approved, the student has the opportunity to review their content. The CSS posts information about the committee composition, date, location, and format of the diploma examination in the USOS system no later than two business days before the scheduled examination. In unforeseen circumstances, the committee composition, time, location, and format of the examination may change on the day of the defence.

The graduate also submits an application for a diploma electronically in the USOS WEB system, and in person to the CSS, additional information for the supplement in Polish (if any), along with attachments confirming the aforementioned information and additional information for the supplement in English (if any).

4.2. Criteria for evaluating a diploma thesis

The thesis is evaluated by the thesis supervisor and a reviewer appointed by the Vice-Dean for Student Affairs. The thesis supervisor confirms the positive evaluation of the thesis by approving it in the system. Before approving the thesis, the supervisor should verify its completeness.

A positive review by the reviewer is a prerequisite for admission to the thesis defence. In the event of a **negative** review, the Vice-Dean will appoint an additional reviewer.

- If the second reviewer's opinion is positive, the diploma examination will take place as scheduled.
- If the second reviewer's opinion is negative, the diploma examination will not take place. The graduate will be removed from the student register. The graduate may resume studies in the final semester.

When evaluating a diploma thesis, the supervisor and reviewer take into account the following criteria:

- A. Correct formulation of the research and design problem. Research section. Research methods. Correctness of the design solutions used in relation to the indicated research problem.
- B. Analysis and assessment of the existing condition (location, site context), correct formulation of design conclusions. Analytical section.
- C. Reference to regulations resulting from legal conditions.
- D. Assessment of the adopted formal solutions, including their connection with the built and unbuilt environment (spatial order, development context).
- E. Assessment of the functional solutions used, in accordance with the adopted utility program. Assessment of the degree of accessibility (universal design).
- F. Assessment of the applied technical solutions and assessment of economic efficiency.
- G. Assessment of the solutions used incorporating the requirements of sustainable development and climate protection (water, renewable energy), greenery design and biologically active areas, and the impact of the investment on society.
- H. Written work: layout and structure of the text, ability to logically present the research process, and application of scientific and editorial skills.
- I. Graphical Presentation/Boards - Application of the principles of professional presentation of architectural and urban planning concepts, clarity, and composition of design boards.
- J. MODEL - Degree of representation of the adopted formal solutions in relation to the existing context – built and unbuilt surroundings.

4.3. Thesis Defence

The **defence** of a master thesis consists of two parts: a project presentation (this part is open to the public and may also include invited guests) and a final exam (this part is closed to the public).

Project Presentation

On behalf of the Dean of the Faculty of Architecture, PUT, the Chair of the Committee opens the public portion of the master's thesis defence.

The project presentation is oral and lasts approximately 15-20 minutes. The main assumptions of the thesis, the research section, and the method for solving the selected research problem should be presented, along with a discussion of the structure of the proposed building (context, land use, form, function, technical solutions). The student may use a previously prepared graphic presentation or design boards during the thesis discussion. The presentation may not include design elements (visualizations, technical drawings, etc.) that were created after the thesis was submitted.

After the student presents the project, the Chair of the Committee gives the floor to the thesis reviewer. The reviewer reads the prepared review of the thesis. The Chair then asks the student to verbally address the reviewer's comments and concerns.

After the student has responded, the Chair opens the discussion on the thesis. Everyone present in the room is welcome to participate. After the discussion, the Chair closes the open portion of the thesis defence and asks all guests to leave.

Examination Part

The thesis committee asks the student three questions based on the applicable exam topics. (The Faculty Council approves the list of applicable thesis topics no later than before the start of the thesis semester. The list is published on the website.)

A passing score in this part of the exam depends on obtaining positive grades on at least two questions. In justified cases (two negative grades, one positive), the committee may ask the student two more questions. The number of positive grades should exceed the number of negative grades. After all questions have been answered, the Chair asks the student to leave the room and opens a discussion among the Committee members on the thesis submitted for defence.

After determining the grades, the Chair asks the student to return to the room and presents the defence results. During the defence, the student receives the following grades, which contribute to the final result of the studies:

- a grade for the thesis presentation (the grade depends on the presentation style, clarity of the message, the student's behaviour during the presentation, and when responding to the reviewer's questions)
- a grade for the thesis (according to the evaluation criteria, section 4.2)
- separate grades for each exam question (the grade relates to the student's knowledge)

The final result of the studies is determined by the diploma examination committee, calculated to two decimal places based on the sum of:

- 0.6 of the weighted average grades from the course of studies;
- 0.2 of the thesis grade;
- 0.2 of the diploma examination grade

A student who receives a 5.0 grade for their thesis is required to leave the boards at the Faculty. The boards are kept in the Faculty's archives for one year from the defence date. After this time, the student may retrieve the boards. To do so, they must submit a request for the boards to the Dean's Office (CSS).

4.4. Competitions

Diploma theses can be submitted individually or through the Faculty Authorities to diploma thesis competitions, in accordance with separate regulations and competition rules. Notices about current competitions are regularly posted on the Faculty website and Facebook page. The Faculty (CSS) must be informed of participation in the competition within six months of the defence date.

5. List of Appendices

1. Title page template.
2. Bibliography – rules for creating a bibliography and citations.
3. The problem of plagiarism..