

NJSC «K. Zhubanov Aktobe Regional University»

"APPROVED"

Chairman of the Board – Rector
of Aktobe Regional University
named after K. Zhubanov,

_____ L.Ch. Karabasova

«_____» _____ 2022 г.

REGULATION

ON MASTER'S THESIS

Internal Use Edition

Aktobe 2022

1. DEVELOPMENT OF THIS REGULATION

Director of the Department of Science and Innovations _____ Zhanturina N.N.

APPROVED AND ENTERED INTO FORCE

By the Chairman of the Board-Rector of Aktobe Regional University named after K. Zhubanov, based on the decision of the Academic Council (Protocol No. ____ dated " ____ " _____ 2022)

VALIDITY PERIOD: Until replaced by a new version.

IMPLEMENTED: Replaces Version 2.0

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I SCOPE OF APPLICATION

This Regulation establishes general requirements for the structure, formatting rules, and organization of the defense procedure for master's theses in all educational programs.

This Regulation is a mandatory guide for master's students, faculty, and structural divisions.

2 NORMATIVE REFERENCES

This Regulation is developed in accordance with the following legal documents:

2.1 Law of the Republic of Kazakhstan No. 319-III "On Education" dated July 27, 2007 (as amended on July 14, 2022, No. 141-VII).

2.2 Law of the Republic of Kazakhstan No. 407-IV "On Science" dated February 18, 2011 (as amended on June 30, 2022, No. 130-VII).

2.3 State Compulsory Standard of Higher and Postgraduate Education. Order No. 2 of the Ministry of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 (hereinafter referred to as MSHE RK).

2.4 Code of Academic Integrity for Students, Faculty, and Staff of ARU named after K. Zhubanov (Academic Council Decision, Protocol No. 13 dated August 12, 2020).

3 GENERAL PROVISIONS

3.1 The master's thesis is a generalization of the results of the independent scientific research work of the master's student on one of the current topics within a specific educational program, completed in the established format. It must demonstrate the graduate's maturity as a researcher, capable of creatively formulating and solving scientific problems in their specialty.

3.2 The master's thesis is the final result of the scientific-research or experimental-research work of the master's student.

3.3 The master's thesis is a graduation paper of scientific content, having internal coherence. The thesis presents the results of independent scientific research on a topic relevant to the current state of science.

3.4 The purpose of the master's thesis is to demonstrate the master's student's level of scientific qualification, ability to conduct independent research, capacity to solve specific scientific problems, and knowledge of general methods and approaches to solving them.

3.5 The master's thesis reveals the master's student's level of scientific qualification and the extent of their mastery of the methodology of scientific inquiry in accordance with the requirements of the State Educational Standards of the Republic of Kazakhstan (SES RK).

3.6 Within two months after enrollment, each master's student is assigned a scientific supervisor for guidance on the master's thesis.

3.7 The supervisor and the master's student's research topic are approved by the decision of the Academic Council of the university.

3.8 The master's student's scientific supervisor must hold an academic degree such as "Candidate of Sciences," "Doctor of Sciences," "Doctor of Philosophy

(PhD),” or “Doctor in Profile,” relevant to the requested field, with at least three years of scientific-pedagogical experience. The supervisor must be the author of at least 5 scientific articles published over the last five years in journals included in the list of scientific publications recommended for the publication of primary research results approved by the authorized body in the field of science and higher education, and at least 1 scientific article in an international peer-reviewed journal with an impact factor according to JCR (Journal Citation Reports) or indexed in one of the following databases: Science Citation Index Expanded, Social Science Citation Index, or Arts and Humanities Citation Index in the Web of Science Core Collection, or with a CiteScore percentile of at least 25 in the Scopus database.

Specialists meeting Level 8 of the National Qualifications Framework with at least three years of work experience may also serve as supervisors in the relevant field.

If necessary, scientific consultants may be appointed in related fields.

3.9 An attestation commission is established to conduct the final assessment of students according to the educational programs.

3.10 The chairperson and members of the attestation commission are approved by the rector’s order based on the decision of the Academic Council no later than February 10 of the current academic year and serve for the duration of the current calendar year.

3.11 The chairperson of the attestation commission is appointed from among professors, associate professors, scholars, and experienced industry specialists with practical experience relevant to the graduates' specialization and who are not employed at the given university.

3.12 The attestation commission is composed of professors, associate professors, and highly qualified specialists relevant to the graduates’ specialization.

3.13 The quantitative composition of the attestation commission is determined by the department.

3.14 The final assessment is conducted within the timeframe specified in the academic calendar and the working curricula of the educational programs in the form of a defense of the master’s thesis.

3.15 Admission to the final assessment is formalized by the order of the dean of the faculty according to the list no later than 10 days before the start of the final assessment and is submitted to the registrar’s office and the attestation commission.

4 REQUIREMENTS FOR THE MASTER’S THESIS

4.1 The main results of the master’s thesis must be presented in at least two publications or in one publication in a journal included in the List of scientific publications recommended by the authorized body, or in one publication in a journal indexed in the Web of Science/Scopus scientific databases for scientific and pedagogical master's programs, and in at least one publication for specialized (professional) master's programs.

4.2 The research work within a scientific and pedagogical master's program must:

- 1) correspond to the profile of the master's educational program under which the thesis is carried out and defended;
- 2) be relevant, contain scientific novelty and practical significance;
- 3) be based on modern theoretical, methodological, and technological achievements in science and practice;
- 4) be conducted using contemporary scientific research methods;
- 5) include scientific research (methodological, practical) sections that support the main defended statements;
- 6) be based on advanced experience in the relevant field of knowledge.

4.3 The experimental research work within a specialized (professional) master's program must:

- 1) correspond to the profile of the master's educational program under which the thesis is carried out and defended;
- 2) be based on modern achievements in science, technology, and industry, and include specific practical recommendations and independent solutions to management tasks;
- 3) be conducted using advanced information technologies;
- 4) include experimental research (methodological, practical) sections supporting the main defended statements.

4.4 The master's thesis must undergo a plagiarism check conducted by the university's expert commission or the National Center for State Scientific and Technical Expertise, which verifies master's theses for plagiarism.

5 CONTENT AND STRUCTURE OF THE MASTER'S THESIS

5.1 The master's thesis must contain fundamentally new material, including a description of new factors or phenomena, or a generalization of previously known provisions from different scientific perspectives or in a new promising context.

5.2 The content of the master's thesis should reflect the initial premises of the research, its process, and the obtained results. The work must present convincing arguments in favor of the chosen concept. Opposing viewpoints should be thoroughly analyzed and critically evaluated.

5.3 Structural elements of the master's thesis:

- title page (Appendix 1);
- one-page abstract in Kazakh for theses written in Russian / abstract in Russian for theses written in Kazakh;
- table of contents with page numbers;
- list of abbreviations, symbols, and notations (if necessary);
- introduction;
- main body consisting of chapters and sections;
- conclusion;
- list of references;
- appendices (optional);
- printed copy of the publication(s).

5.4 The abstract must include information on the relevance of the study, its objectives and tasks, key ideas and conclusions, the degree of novelty and practical

significance of the results obtained, as well as the volume of the thesis and the amount of illustrative material.

5.5 The introduction must reflect the relevance of the topic, objectives, research tasks, methods used, scientific novelty, practical and theoretical significance, and information on the volume and number of illustrative materials.

5.6 The conclusion should summarize the main findings of the research presented in the thesis.

6 FORMATTING RULES FOR THE MASTER'S THESIS

6.1 The technical formatting requirements for the master's thesis must meet the criteria traditionally established by the Committee for Quality Assurance in the Field of Science and Higher Education for theses and dissertations.

6.2 The formatting of the bibliography must also meet the criteria for dissertations (Appendix 3). The list of references should reflect the student's engagement with both domestic and international scientific sources. During the preparation of the master's thesis, the student is required to work with sources in foreign languages. The reference list must include at least 20 sources, of which at least 30% must be in foreign languages (excluding Russian) and published within the last five years.

6.3 The master's thesis must be typed on one side of white A4 paper using a computer, with single line spacing, Times New Roman font, size 14 pt, and the following margins: left — 30 mm, right — 10 mm, top — 15 mm, bottom — 20 mm.

The required length of the master's thesis depends on the field of study:

For fields 7M01 – Pedagogical Sciences, 7M02 – Arts and Humanities, 7M03 – Social Sciences, Journalism and Information, 7M04 – Business and Management: not less than 45 pages.

For fields 7M05 – Natural Sciences, Mathematics and Statistics, 7M06 – Information and Communication Technologies, 7M07 – Engineering and Processing Industries: not less than 35 pages.

The required length of the master's project for professional master's programs is:

For fields 7M01 – Pedagogical Sciences, 7M02 – Arts and Humanities, 7M03 – Social Sciences, Journalism and Information, 7M04 – Business and Management: not less than 40 pages.

For fields 7M05 – Natural Sciences, Mathematics and Statistics, 7M06 – Information and Communication Technologies, 7M07 – Engineering and Processing Industries: not less than 30 pages.

6.4 Section headings must be centered, typed in uppercase letters without a period at the end. Subsection headings must be indented (starting from the fourth character of the line), typed in title case (capitalized first letter), not underlined, and without a period at the end. Subsections should be separated by a single line space.

6.5 Pages are numbered with Arabic numerals in continuous order, starting from the title page, although the number 1 is not displayed on the title page. Page numbers should be placed at the bottom center of the page.

6.6 Illustrations (graphs, charts, photographs) must be placed directly after they are referenced in the text. Each illustration is labeled as "Figure" with its

corresponding number, and this label is placed below the figure along with a caption (see Appendix 2). For example: Figure 1. Types of sensors. If necessary, explanatory information may be added below the figure. Figures are numbered sequentially throughout the entire thesis using Arabic numerals. References to each figure in the text are mandatory.

6.7 Numerical data must be presented in tables, which are numbered using Arabic numerals. The label "Table 1" (or the appropriate number) is placed above the table with an indent, followed by the title of the table (see Appendix 2).

6.8 Formulas and equations must be separated from the main text and placed on a new line. At least one blank line must be left above and below each formula. Formulas and equations are numbered sequentially throughout the thesis using Arabic numerals enclosed in parentheses.

6.9 References to sources in the bibliography are numbered with Arabic numerals in square brackets in the order they are cited in the text.

7 PROCEDURE FOR SUBMISSION AND DEFENSE OF THE MASTER'S THESIS

7.1 The master's thesis, formatted in accordance with established requirements, must be submitted to the graduating department for the pre-defense procedure and for obtaining a supervisor's review with a substantiated conclusion: "approved for defense" or "not approved for defense."

7.2 The supervisor's review must include:

- compliance of the thesis with the educational program and the relevant field of science;

- assessment of the relevance of the topic;

- assessment of the completeness, depth, and originality in addressing the research questions;

- evaluation of the thesis readiness for defense.

7.3 The master's thesis must undergo a plagiarism check (for unreferenced borrowing) conducted by the university's expert commission or the National Center for State Scientific and Technical Expertise (NCSTE).

7.4 The thesis may be defended only if the following conditions are met:

- a positive review from the scientific supervisor;

- at least two publications or one publication in a journal included in the list of scientific publications recommended by the authorized body, or in a journal indexed in Web of Science/Scopus scientific databases;

- a decision from the graduating department recommending the thesis for defense (recorded in the department meeting minutes);

- one external review by a reviewer with an academic degree or qualification relevant to the thesis topic, including a comprehensive evaluation and a substantiated conclusion on the eligibility for awarding the academic degree of Master in the relevant educational program;

- a plagiarism check certificate from licensed plagiarism detection software.

If the scientific supervisor and/or the department issue a negative conclusion ("not approved for defense" or "not recommended for defense"), the thesis is not subject to defense.

7.5 The originality of the master's thesis, according to the plagiarism check, must be at least 75%.

7.6 The thesis defense schedule is approved in accordance with the academic calendar. No more than 10 master's students may defend their thesis in one day.

The defense is conducted in an open session of the attestation commission with participation of at least two-thirds of its members.

During the defense, the master's student presents their work to the chair and members of the attestation commission in a presentation lasting no less than 20 minutes.

7.7 The thesis defense must take the form of a scientific discussion and take place in an atmosphere of high academic standards, integrity, and adherence to scientific ethics.

7.8 The attestation commission evaluates the master's thesis based on the following criteria:

- scope of work completed;
- independence of the research;
- thoroughness and modernity of the literature used;
- potential applicability of the results in research, practical work, or teaching;
- clarity and accuracy of written presentation;
- quality of the oral presentation (clarity, fluency, use of professional terminology, quality of visual materials, etc.);
- accuracy and completeness of responses to questions raised during the defense and to the reviewer's comments.

7.9 The results of the thesis defense are documented in a protocol, in accordance with the format set in Appendices 4–5, individually for each student.

The attestation commission's decision is recorded using the form in Appendix 6.

7.10 Based on the results of the final attestation, a Rector's order is issued on the graduation of master's students who have completed their studies under the relevant postgraduate educational program and successfully passed the final attestation, conferring upon them the academic degree of "Master."

7.11 The final attestation report for master's students includes tables and an explanatory note.

The table reflects indicators specified in Appendix 7 of these regulations.

The explanatory note includes:

- 1) the level of training of master's students under the given educational program;
- 2) description of the knowledge demonstrated by students during the comprehensive examination;
- 3) analysis of the quality of master's training in the relevant specialty;
- 4) identified shortcomings in the preparation of master's students;
- 5) relevance of thesis topics to the current state of science, technology, culture, and industry needs;
- 6) quality of thesis execution;

7) compliance of the supervisor's review and the external reviewer's report with the level of the thesis defense;

8) specific recommendations for improving the preparation of master's students.

10 AMENDMENTS AND ADDITIONS

10.1 This Regulation is approved by the Rector of the University based on the decision of the Academic Council and enters into force upon its signing.

10.2 Amendments and additions to the Regulation shall be made in accordance with legislative acts, regulatory documents in the field of education, and internal university regulations.

10.3 In the event of changes, all existing copies of the invalidated Regulation within the University must be withdrawn and replaced with the updated version.

APPROVED BY:

Vice-Rector for Academic Affairs

L.N. Myasnikova

Vice-Rector for Science and Innovation

R.A. Beknazarov

K. ZHUBANOV AKTOBE REGIONAL UNIVERSITY

Department of Physics

MASTER'S THESIS

**Computer Modeling of the Behavior of Charged Particle Beams in
Electromagnetic Fields**

Author _____ *Full Name*

Academic Supervisor _____ *Full Name*

Approved for Defense

Head of Department _____ Full Name

«_____» _____ 2022 г.

Aktobe
2022

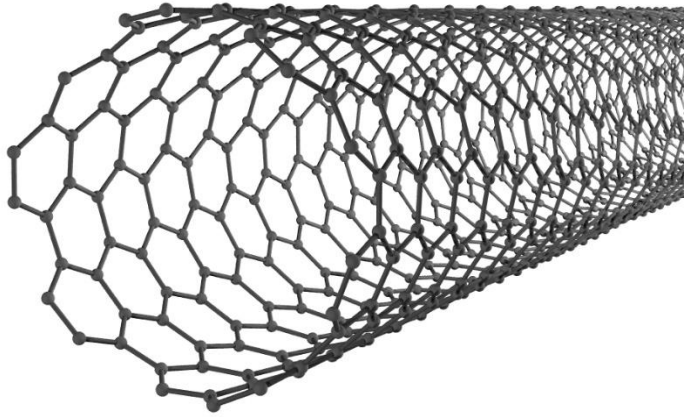


Figure 1. Carbon Nanotube

Table 1. Distribution of Test Results

No.	Test Type	Year I				Year II				Year III			
		Excellent	Good	Satisfactory	Unsatisfactory	Excellent	Good	Satisfactory	Unsatisfactory	Excellent	Good	Satisfactory	Unsatisfactory
1	Strength Abilities	3,2	12,1	36,3	48,4	3,1	10,7	27,4	58,8	2,1	11,0	26,4	60,5
2	General Endurance	6,6	14,2	29,5	49,7	6,3	12,9	26,9	53,9	6,3	12,9	24,4	56,4
3	Flexibility	55,8	14,5	15,2	14,5	60,0	15,6	16,0	8,4	60,4	15,9	16,1	7,6
4	Agility	26,1	31,4	40,7	1,8	26,1	30,2	41,1	2,6	26,0	30,9	40,4	2,7
5	Speed	14,0	16,4	47,8	21,8	15,4	16,7	49,2	18,7	14,5	13,5	53,1	18,9

Legal and Regulatory Documents

Example:

State Compulsory Standard of Education: Resolution of the Government of the Republic of Kazakhstan dated October 31, 2018 No. 604

Patents

Example:

Patent No. 33327. Republic of Kazakhstan. Method for enhancing the luminescence of KCl by activation with light Na cations / Shunkeyev K.Sh.; applicant and patent holder – K. Zhubanov ARU. – November 30, 2018. – 4 pages.

Books

Example:

Sarmurzina G.A. Modern History of Kazakhstan. – Almaty: KazNITU, 2016. – 123 p.

Dissertation Abstracts

Example:

Abiev S.A. Rust Fungi of Cereal Plants in Kazakhstan: 03.00.00: October 30, 1994. – Almaty, 1994. – 30 p.

5. Journal Articles

Example:

Rakhimova E.V., Nam G.A., Ermekova B.D., Abiev S.A. A Brief Illustrated Guide to Rust Fungi of Kazakhstan // International Journal of Experimental Education. – 2016. – No. 10(1). – pp. 85–86.

Newspaper Articles

Example:

Alzhanova A. December 1 – Day of the First President of the Republic of Kazakhstan / A. Alzhanova // Kazakhstanskaya Pravda. – 2017. – No. 143. – p. 9.

PROTOCOL № _____**Meeting of the State Attestation Commission**

"__" _____ 20__ from __ hours ____ minutes to __ hours ____ minutes

Regarding the Master's Thesis of the Master's Student:

(full name, specialty)

Thesis Title:

Present::

Chairperson:

(full name)

Members::

(full name)

(full name)

(full name)

(full name)

The Master's Thesis was completed under the supervision of:

(full name, academic degree or title)

Reviewer

((full name, academic degree or title, place of employment, position held))

The following materials were submitted to the Attestation Commission:

- 1) Master's thesis, ____ pages;
- 2) Drawings and tables related to the thesis, ____ sheets;
- 3) Supervisor's review of the thesis with the conclusion: _

(specify "recommended for defense")

- 4) Decision of the graduating department on

(name of the department)

(indicate whether the thesis is recommended or not recommended for public defense)

5) Reviewer's report with evaluation: _____

(specify reviewer's evaluation)

After the presentation of the thesis, the student was asked the following questions (within _____ minutes):

1. _____
(name and initials of the commission member and the question asked)
2. _____
(name and initials of the commission member and the question asked)
3. _____
(name and initials of the commission member and the question asked)
4. _____
(name and initials of the commission member and the question asked)
5. _____
(name and initials of the commission member and the question asked)

General assessment of the student's responses to the questions:

During the defense, the student demonstrated the following level of knowledge in general theoretical and specialized training: _____

(какой уровень знаний по общетеоретической и специальной подготовки)

It is acknowledged that the master's student has completed and successfully defended the thesis with the grade:

((grade according to the letter-based point-rating system))

Special opinions of commission members (if any): _____

Chairperson _____ (signature)
Commission Members _____ (signatures)
_____ (signatures)
Secretary _____ (signature)

PROTOCOL № _____

Decision of the State Attestation Commission

"__" _____ 20__ from __ hours ____ minutes to __ hours ____ minutes

On the Award of the Academic Degree "Master"

Present:

Chairperson

(full name)

Members:

(full name)

(full name)

(full name)

(full name)

Master's student

(full name, specialty)

Defended the master's thesis with the grade:

(master's thesis, grade according to the letter-based point-rating system, date of defense)

It is acknowledged that the student has successfully defended the master's thesis.

Присудить магистранту

(full name, initials)

the academic degree "Master" in the educational program:

(code and name of the specialty)

Special opinions of commission members:

A postgraduate education diploma shall be issued.

Chairperson _____ (signature)

Commission Members _____ (signatures)

Secretary _____ (signatures)
 _____ (signature)

Appendix 6

Table 1

Master's Thesis Defense Results

For the year: _____
 Educational Program _____

Form of Final Certification	Number Admitted to Final Certification	Number of Students Who Attempted	Of Those Who Passed:							
			90-100%	70-90%	50-70%	Менее 50%	Average Grade	No Show	Quality %	Success Rate %
Защита диссертации										

Table 2

Comparative Analysis of Graduation Results

Indicators	Previous Period	Reporting Period
Quality %		
Success Rate %		
Average Grade		