BELARUSIAN NATIONAL TECHNICAL UNIVERSITY

FACULTY OF MANAGEMENT TECHNOLOGIES AND HUMANITARIZATION

Department "Economics and Law"

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Methodological guide for creating a master's thesis in English and the requirements for the content and design by undergraduates of the specialty 1-25 80 01 "Economics"

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The methodological guide is a set of the requirements for the content and design of the master's theses in economics.

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FOREWORD

The final certification of students in the form of defending a master's thesis is the final stage in the development of the content of educational programs of higher education of the second stage.

A master's thesis is an independently completed research work that has an internal unity, dedicated to solving a theoretical, experimental or applied problem in the corresponding field of professional activity, indicating the personal contribution of the author to science and (or) practice.

The master's thesis is an independent logically completed work related to the development of scientific and industrial, scientific and pedagogical, scientific research tasks of an applied nature and creative problems, determined by the specifics of the direction of training and indicating the level of professional training of the student.

The master's thesis is carried out in accordance with the individual plan of the master's student.

1. ORGANIZATION OF THE PREPARING MASTER'S THESIS

The stages of preparation of a master's thesis include:

selection and approval of the topic of the master's thesis and scientific supervisor;

development of an individual plan;

studying the requirements for the content and design of the master's thesis; writing the master's thesis;

admission to the defense of the master's thesis;

peer review of the master's thesis;

defense and evaluation of the master's thesis.

Topics of master's theses are discussed at a meeting of the graduating department (department). The topic of master's theses should be relevant, correspond to the current state and prospects for the development of science, technology and culture.

Themes of master's theses and scientific advisers are approved by the order of the rector of BNTU within two months after the enrollment of students for the development of educational programs of higher education of the second stage. It is allowed to change the topic of the master's thesis, but no later than two months before its defense.

The program for the preparation of a master's thesis is determined by an individual plan.

The master's thesis is submitted to the relevant department three weeks before its defense in a stitched form (hardcover without metal staples), together with the review of the supervisor.

No later than three weeks before the defense of the master's thesis, the supervisor prepares a review, which reflects:

the field of science or industry, the relevance of the topic;

specific personal participation of the author in the development of provisions and obtaining the results set forth in the master's thesis, the reliability of these provisions and results;

scientific and practical significance of the research results;

approbation and scale of use of the main provisions and results of work;

compliance of the master's thesis with the stated requirements;

the possibility of assigning an appropriate qualification to a student mastering the content of the educational program of higher education of the second stage.

For admission to the defense of a master's thesis, a preliminary defense of a master's thesis is carried out at a meeting of the department with the obligatory participation of a scientific supervisor.

2. REQUIREMENTS FOR THE CONTENT OF MASTER'S THESIS

1) The master's thesis at the completion of the development of the content of the educational program of higher education of the second stage with indepth training of a specialist, ensuring the receipt of a master's degree, must contain an abstract part and a research part reflecting the professional competencies of a graduate of a magistracy in accordance with the specialty of training. The research part must be at least 70% of the volume of the thesis.

The title page of the master's thesis is drawn up in the form in accordance with APPENDIX 1

The table of contents is given at the beginning of the master's thesis and includes the names of its structural parts ("LIST OF CONVENTIONS AND ABBREVIATIONS", "GENERAL CHARACTERISTICS OF THE THESIS", "INTRODUCTION", the names of all CHAPTERS, sections and subsections, "CONCLUSION", "LIST OF USED LITERATURE", "APPENDICES") with the indication of the page numbers on which the beginning of the presentation of the corresponding parts of the thesis is placed. The table of contents for the master's thesis is presented in Appendix 2.

If a master's thesis uses specific terminology, less common abbreviations, abbreviations, conventions and so on, they are combined into a list of conventions and abbreviations placed before the general description of the work. In this list, special terms, abbreviations, symbols and all that are arranged in alphabetical order in the form of a column, and their decoding is given to the right of them. If the dissertation contains special terms, abbreviations, designation symbols, etc. are repeated less than three times, the list is not compiled, and their decoding is given in the text at the first mention.

2) The general characteristics of the thesis includes the following subsections:

Purpose and objectives of the study;

Scientific and practical significance of research results;

Approbation of the dissertation results;

Publication of research results (if any);

Structure and scope of the thesis.

The title of each item is placed in a separate subheading.

The subsection "Purpose and objectives of the study" formulates the purpose of the work and the tasks that need to be solved to achieve it. The goal should not be formulated as "Research...", "Study of...", as these words indicate the process of achieving the goal, and not the goal itself. In the same subsection, the object and subject of research are indicated and their choice is justified.

The subsection "Scientific and practical significance of research results" in a concise form reflects the essence of the results. The subsection should contain the distinctive features of the results that characterize the contribution of the applicant to the field of science and (or) practice to which the topic of the master's thesis belongs. They should contain not only a summary of the

essence of the scientific and practical results obtained, but also a comparative assessment of their scientific and (or) practical significance.

The subsection "Approbation of the dissertation results" indicates at which conferences, seminars, etc. the results of research included in the master's thesis were presented.

The subsection "Publication of research results" indicates in how many articles in scientific journals, collections, conference abstracts, patents, the results of the work have been published.

The subsection "Structure and scope of the thesis" summarizes the structure of the work, the presence of an introduction, a certain number of chapters, an appendix. The full volume of work is given in pages, as well as the volume occupied by illustrations, tables, appendices (indicating their number), a list of used literature (indicating the number of titles).

- 3) The section "INTRODUCTION" provides a justification for the range of issues that need to be further studied on issues related to the topic of the master's thesis, justifies its relevance, shows the need for research on this topic to solve a specific problem (task), develop specific areas in the relevant industry science and / or practice, reflects the place of the dissertation among other studies in this area. Introduction is a short section of no more than 2 pages.
- 4) The text of **the main part of the master's thesis** is divided into **CHAPTERS** and sections (if necessary), which provides an analysis of scientific literature, a description of the methods, equipment and materials used, as well as the essence and main results of the research.

The main part of the thesis consists of two or three chapters. The content of each chapter must strictly correspond to the topic, be devoted to solving the problems formulated in the introduction, and end with the conclusions reached by the master's student as a result of the research.

In the main part of the work, the research topic is consistently revealed and given:

analytical review of the literature on the topic, substantiation of the choice of the direction of research, the general concept of work;

presentation of the general methodology and basic research methods;

a statement of the stages of theoretical research, the program of the experiment (if a practical research is carried out) and its results.

In a review of the literature author gives an essay (study) of the main stages of the development of scientific views on the problem.

The entire order of presentation in a master's thesis should be subordinate to the purpose of the research formulated by the author. The allocation and sequence of chapters and sections should be logically justified.

When writing a work, a master student is obliged to provide links to authors and sources from which he borrows materials or individual results.

5) The "CONCLUSION" contains brief conclusions based on the results of the work performed. They should consist of no more than 4 large summarizing points summarizing the work done.

Conclusions should strictly correspond to the tasks of the work formulated in the introduction.

- 6) **THE LIST OF USED LITERATURE** should include a list of information sources to which references are given in the master's thesis.
- 7) In the section "APPENDICES", if necessary, include auxiliary material: graphic material (in the case of an electronic presentation); a set of design, technological, software and other documents.

The section is formed in case of need for a more complete disclosure of the content and results of research, assessment of their scientific and (or) practical significance.

3. REQUIREMENTS FOR COMPLETING MASTER'S THESIS

- 1) The master's thesis is printed using a computer and a printer on one side of a sheet of A4 white paper (210x297 mm) and is presented in the form of a specially prepared hardcover manuscript.
- Typing of the dissertation text is carried out using a text editor Microsoft Word. It is recommended to use 14 point Times New Roman fonts. The number of characters in a line should be 60 70, line spacing should be 18 points (1.5 typed spacing), the number of text lines on a page -39–40. In case of insertion into a formula line, an increase in line spacing is allowed.
- 3) The following margins are set: top and bottom -20 mm, left -30 mm, right -10 mm.
- 4) The volume of the thesis, as a rule, should not exceed 50 pages of text.
- 5) Headings of the structural parts of the thesis "CONTENTS", "LIST OF CONVENTIONS AND ABBREVIATIONS", "GENERAL CHARACTERISTICS OF THE THESIS", "INTRODUCTION", "CHAPTER", "CONCLUSION", "LIST OF USED LITERATURE", "APPENDICES" print in capital letters in the middle of the lines, using a bold font 1 to 2 points larger than the font in the body text. Chapter titles are also printed.
- 6) Section headings are printed in lowercase letters (except for the first uppercase) with paragraph indentation in bold font with a size of 1-2 points larger than in the main text.
- 7) The headings of subsections are printed with paragraph indentation in lowercase letters (except for the first uppercase) in bold font with the font size of the main text.
- 8) Paragraphs, as a rule, do not have headings. If necessary, the heading of the paragraph is printed with a paragraph indent in bold font with the font size of the main text in fit to the text.
- 9) At the end of the headings of chapters, sections and subsections do not put a dot. If the title consists of two or more sentences, they are separated by dot(s). At the end of the heading of the paragraph, put a dot.
- 10) The distance between the heading (except for the paragraph heading) and the text should be 2-3 line spacing. If there is no text between two headings, then the distance between them is set to 1.5-2 line spacing. The distance between the heading and the text that the heading follows can be greater than the distance between the heading and the text to which it refers. Each structural part of the thesis should be started with a new sheet.
- 11) Page numbering is given in Arabic numerals. The first page of the dissertation is the title page, which is included in the general pagination of the dissertation. On the title page, the page number is not put; on subsequent pages, the number is put down in the center of the bottom of the sheet without a dot at the end.

The numbering of chapters, sections, subsections, paragraphs, figures, tables, formulas, equations is given in Arabic numerals without a "No" sign.

The chapter number is placed after the word "CHAPTER". The sections "TABLE OF CONTENTS", "LIST OF CONVENTIONS AND ABBREVIATIONS", "INTRODUCTION", "GENERAL CHARACTERISTICS OF THE THESIS", "CONCLUSION", "LIST OF USED LITERATURE", "APPENDICES" have no numbers. The subsections of the section "GENERAL CHARACTERISTICS OF THE THESIS" are not numbered either.

Sections are numbered within each chapter. A chapter number consists of a chapter number and a sequential chapter number, separated by a period, for example: "2.3" (third section of the second chapter).

Subsections are numbered within each section. The subsection number consists of the ordinal numbers of the chapter, section, subsection, separated by dots, for example: "1.3.2" (second subsection of the third section of the first chapter).

Items are numbered in Arabic numerals within each subsection. The item number consists of the serial numbers of the chapter, section, subsection, item, separated by dots, for example: "4.1.3.2" (the second item of the third subsection of the first section of the fourth chapter). Item numbers are in bold.

The chapter title is printed on a new line following the chapter number. The headings of sections, subsections, paragraphs are given after their numbers, separated by a space. The item may not have a title.

At the end of the numbering of chapters, sections, subsections, paragraphs, as well as their headings, do not put a dot.

12) Illustrations (photographs, pictures, drawings, diagrams, graphs, maps, etc.) and tables should be placed in the thesis directly on the page with the text after the paragraph in which they are mentioned for the first time, or separately on the next page. They should be located so that it is convenient to view them without turning the thesis or with a clockwise rotation.

Illustrations and tables, which are located on separate sheets of the thesis, are included in the general pagination. If they are larger than A4, they are placed on an A3 sheet and counted as one page.

Illustrations and tables are designated respectively by the words "figure" and "table" and are numbered sequentially within each chapter. All tables and illustrations should be referenced in the text of the thesis. The words "figure", "table" in figure captions, tables and references to them are not abbreviated.

The illustration (table) number should consist of the chapter number and the sequential number of the illustration (table), separated by a dot. For example: "Figure 1.2" (second figure of the first chapter), "Table 2.5" (fifth table of the second chapter). If the dissertation chapters contain only one illustration (table), then they are numbered sequentially within the dissertation as a whole, for example: "Figure 1", "Table 3".

13) The numerical material of the dissertation is drawn up in the form of tables. Each table should have a short title, which consists of the word "Table", its serial number and name, separated from the number by a dash. The heading should be placed above the table on the left, without indentation.

When drawing up tables, you must be guided by the following rules:

it is allowed to use a font 1–2 points smaller in the table than in the text of the thesis;

the column "Number in order" should not be included in the table;

a table with a large number of lines can be transferred to the next sheet. When transferring a part of the table to another sheet, its title is indicated once above the first part, on the left above other parts they write the word "Continuation":

headings of graphs and lines should be written with a capital letter in the singular, and subheadings of a graph – with a lowercase, if they make up one sentence with a heading, and with an uppercase, if they have an independent meaning. It is allowed to number the columns with Arabic numerals, if it is necessary to provide links to them in the text of the thesis.

14) Formulas and equations in the thesis (if there are more than one) are numbered within the chapter. The formula (equation) number consists of the chapter number and the ordinal number of the formula (equation) in the chapter, separated by a dot. The numbers of formulas (equations) are written in parentheses at the right margin of the sheet at the level of the formula (equation), for example: "(3.1)" – the first formula of the third chapter.

When formulating formulas and equations, the following rules must be observed:

formulas and equations should be separated from the text on a separate line. Above and below each formula and equation, one free line is left;

if a formula or equation does not fit on one line, it must be wrapped after the equal sign (=) or after the plus (+), minus (-), multiplication (x) and division (:) signs. In this case, the character is repeated at the beginning of the next line;

references to formulas in the text of the thesis are given in brackets;

an explanation of the meanings of the symbols and numerical coefficients included in the formula or equation should be given directly under the formula or equation in the same sequence in which they are given in the formula (equation). The meaning of each character and numerical coefficient should be given on a new line. The first line of the explanation begins with the words "where" without a colon.

If necessary, explanations or reference data should be given to the content of the illustration (table) or to the text in the form of notes that lead directly below them. If there is only one note, then a dash is placed after the word "Note" written with paragraph indentation, and the note is stated with a capital letter. In the case of several notes, each of them is printed on a new line with paragraph indentation and numbered in Arabic numerals.

The word "Notes" and their content are printed in font 1–2 points smaller than the font size of the main text.

- 15) In the dissertation, it is necessary to provide references to sources, materials or individual results that are cited in the work, or on the ideas and conclusions of which the research is based.
- 16) Information about the literature used in the dissertation is given in the section "LIST OF USED LITERATURE".

The "LIST OF USED LITERATURE" is formed in the order of appearance of references in the text of the thesis or in alphabetical order of the names of the first authors and (or) titles.

In the list of used literature, information about sources is numbered in Arabic numerals.

Information about sources is printed with paragraph indentation. In the list of used literature, a dot is put after the number.

The Cyrillic alphabet is used when compiling a list of used literature. The content of information about the literature used must correspond to the examples in accordance with Appendix 3.

17) The section "APPENDICES" is drawn up at the end of the manuscript or in the form of a separate part (book), placing them in the order of appearance of references in the text of the thesis. It is not allowed to include in the appendix materials that are not referenced in the text of the thesis.

Each appendix should start on a new sheet with the word "APPENDIX" in capital letters in the upper right corner. The application should have a meaningful title, which is placed on a new line in the center of the sheet with a capital letter.

Applications are designated by capital letters of the Latin alphabet, with the exception of the letters I and O.

18) To clarify other issues of registration of a master's thesis, you can refer to the content of the Instruction on the procedure for organizing the preparation of master's theses and requirements for their content and registration at BNTU.

MINISTRY OF EDUCATION OF THE REPUBLIC OF BELARUS BELARUSIAN NATIONAL TECHNICAL UNIVERSITY

FACULTY	
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DEPARTMENT	,
(the name of the de	partment that issues, in full)
	APPROVED FOR DEFENCE Head of the DepartmentN. P. Surname (signature) «»20 y.
for obtaining a Master's Degree	EER'S THESIS e of Science in (Engineering, Economics etc.)
Specialty 1 – XX XX XX	(name of specialty)
Undergraduate	N. P. Surname
Supervisor academic degree and rank	N. P. Surname (signature, date)

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Samples of the bibliographic description in the list of used literature

	Samples of the bibliographic description in the list of used literature		
Document characteristics	An example of a bibliographic description		
Editions with one, two and three au-	Rips, L. J. Lines of thought: central concepts in cognitive psychology / L. J. Rips. – New York; Oxford: Oxford Univ. Press, 2011. –		
thors	XXII, 441 p.		
	Rüthers, B. Rechtstheorie: Begriff, Geltung und Anwendung des Rechts / B. Rüthers, Ch. Fischer. – 5. Aufl. – München: Beck, 2010. – 665 S.		
Editions with four or more authors	Elternbasierte Sprachförderung im Vorschulalter / F. Petermann [et al.]. – Göttingen [etc.] : Hogrefe, 2009. – 150 S.		
	Language, society and power: an introduction / L. Thomas [et al.]; ed.: I. Singh, J. S. Peccei. – 2nd ed. – London: Routledge, 2004. – XXIV, 239 p.		
Publications with a collective author	Collection of rules for transportation and tariffs of public railway transport / Belarusian railway; comp. E. A. Gopova Minsk: Peresvet, 2013. – 46 p.		
Multivolume publications in general	Encyclopedia of social work: in 4 vol. / ed.: L. E. Davis, T. Mizrahi. – Oxford: Oxdord Univ. Press, 2011. – 4 vol.		
Separate volumes in a multivolume edition	Encyclopedia of social work: in 4 vol. / ed.: L. E. Davis, T. Mizrahi. – Oxford: Oxdord Univ. Press, 2011. – Vol. 4. – 564 p.		
Collections of articles, works	Political philosophy in the twenty-first century: essential essays / ed.: S. M. Cahn, R. B. Talisse. – Boulder: Westview Press, 2013. – VII, 291 p.		
Conference materials	Personal papers in history: papers from the 3rd Intern. conf. on the history of rec. a. arch., Boston, 27–29 Sept. 2007 / Univ. of Texas; ed.: B. L. Craig [et al.]. – Austin: Univ. of Texas, 2009. – 155 p.		
Textbooks, teaching materials	Agapov, E. P. Methods of research in social work: textbook. allowance / E. P. Agapov. – 2nd ed. – M.: Dashkov and K°; Rostov-on-Don: Nauka-Spektr, 2013. – 223 p.		
Serial editions	Lane, T. Rendering the sublime: a reading of Marina Tsvetaeva's fairy-tale poem «The swain» / T. Lane. – Stockholm: [s. n.], 2009. – 147 p. – (Acta Universitatis Stockholmiensis. Stockholm studies in Russian literature; № 41).		
Remote access	Reforming the United Nations for peace and security [Electronic re-		
electronic resources	source]: proc. of a workshop to analyze the rep. of the High-level		
	Panel on Threats, Challenges, a. Change / Yale Center for the Study of Globalization. – New Haven: Yale Center for the Study of Global-		
	ization, 2005. – Mode of access:		
	http://www.ycsg.yale.edu/core/forms/Reforming_un.pdf. — Date of access: 20.02.2014.		
	UNBISnet [Electronic resource]: UN Bibliogr. Inform. System. – Mode of access: http://unbisnet.un.org. – Date of access: 24.06.2016.		

Continuation

Utility models	Mammary gland healing film [Electonic resource]: utility model CN 202876089 / Geng Longlin, Geng Biao, Jiang Jian. – Publ. date 17.04.2013. – Mode of access:
	http://worldwide.espacenet.com/publicationDetails/
	originalDocu-
	ment?CC=CN&NR=202876089U&KC=U&FT=D&ND=3&date=201
	30417&DB=EPODOC&locale=ru_ru. – Date of access: 03.02.2016.
Applications for	Apparatus and methods for performing electrotherapy [Electronic re-
invention	source]: application WO 2013075062 / J. Biondo, S. Kaye, D. Walsh,
mvention	B. Kaye, D. Ashraf. – Publ. date 23.05.2013. – Mode of access:
	https://patentscope.
	wipo.int/search/en/detail.jsf?docId=WO2013075062&redirectedID=tr
	ue. – Date of access: 03.02.2016.
Invention patents	Ceramic substrate and method for the production thereof [Electronic
an tention percents	resource]: pat. US 7160406 / C. Hoffmann, KD. Aichholzer. – Publ.
	date 09.01.2007. – Mode of access: http://patft.uspto.gov/netacgi/nph-
	Pa-
	ser?Sect1=PTO1&Sect2=HITOFF&d=PALL&p=1&u=%2Fnetahtml
	%2FPTO%2Fsrchnum.htm&r=1&f=G&l=50&s1=7160406.PN.&OS
	=PN/7160406&RS=PN/7160406. – Date of access: 03.02.2016.
Laws and	On Ratification of the Agreement between the Government of the Re-
Legislative	public of Belarus and the Government of the People's Republic of
Materials	China on Air Services: Law of the Republic of Belarus Belarus, Feb-
	ruary 26. 1997, № 22-3 // Gazette of the National Assembly of the
	Republic of Belarus. – 1997. – № 16. – Art. 297–298.
Articles from col-	Crane, M. T. Analogy, metaphor, and the new science / M. T. Crane //
lections of articles	Introduction to cognitive cultural studies / ed. L. Zunshine. –
	Baltimore, 2010. – P. 103–114.
Articles from	Lind, H. Raman spectroscopy of thin-film silicon on woven polyester
magazines	/ H. Lind, J. Wilson, R. Mather // Physica Status Solidi. A. – 2011. –
	Vol. 208, № 12. – P. 2765–2771.
	Steger, D. P. The future of the WTO: the case for institutional reform
	/ D. P. Steger // J. of the Intern. Econ. Law. – 2009. – Vol. 12, iss. 4. –
	P. 803–833.
Components of	World heritage list [Electronic resource] // UNESCO, World Heritage
electronic resources	Centre. – Mode of access: http://whc.unesco.org/en/list. – Date of ac-
for remote access	cess: 20.06.2016.