*APPROVED by the Academic Council of*

*the Faculty of Business and Management*

*National Research University*

*Higher School of Economics*

**Guidelines for writing, evaluating, defending and publishing**

**Term Papers and Theses**

**for students of the Programme “Big Data Systems”**

1. **General Provisions**

Course project work (CPW), is an element of education in the framework of certain educational branches and disciplines. Their requirements are stated in programs of said academic disciplines. CPW’s are a separate type of educational activity - a form of scientific research, conducted by the student. Execution of the CPW by the student provides them with professional knowledge and experience, as well as teaches them independent research skills based on their CPW subject. Finally, it allows the development of complex analytical skills, systematization of large amounts of data. During a single school year, the students may not be assigned more than a single CPW.

CPW’s may be executed in one of the following formats:

**A research project** - an analysis and summary of the theoretical and empiric material, made for reinforcing knowledge acquired during the educational process.

**Empirical practical** solution based on systemic analysis of the chosen object and subject of the problem.

Each CPW has to be completed by each student individually.

A CPW may not be a simple review of the topical literature and other sources based on the subject. You are forbidden from using fragments of other author’s work and plagiarising content.

In a CPW, the student has to demonstrate their knowledge of the professional field, as well as demonstrate the professional independence of the researcher.

During the assignment, the student has to demonstrate the following skills:

* Proper formulation of the key problem(s);
* Execution of the analysis by reviewing and comparing multiple points of view on the problem, expressed through relevant scientific literature.
* Deconstruction and insertion of the rathered information into the required framework;
* Proper quotation and description of other authors;
* Exposition of the personal understanding of the problem;
* Description of various ways and methods of analysis and problem solution.
* Proper grammar and syntax. The work must be local and easily to understand and must follow the technical demands provided in the manual.

Though the CPW doesn’t require new scientific results and innovational proposals, it is highly recommended for the student to express the results of their personal research based on the given CPW subject.

1. **General requirement for the qualification work (Master’s thesis)**

The CPW is a mandatory element of the education program, a form of research work

The basic formats of the CPW are:

* The academic format - research, conducted for the purpose of gaining new insight about the structure, properties and patterns of the object
* The project-research format - development of the applied problem, in the result of which is the development of a certain product (project solution)

Masters dissertation must represent itself a qualification work of scientific direction based on the given topic. The Master’s dissertation must have a multitude of results and scientific provisions, given by the author for defence. The work has to be coherent as well as state about the author’s ability to do independent research using theoretical knowledge and practical skills, and know how to formulate research problems and their solutions. The content of the work consists out of theoretical research, development of new methods of resolving scientific problems, as well as solving more practical problems.

The topic of the magister's dissertation must reflect the student’s speciality and follow the direction of the scientific advisor.

* Systematization and integration of theoretical knowledge and practical skills for the development of the speciality of the higher professional education;
* Development of critical accession and summary of theoretical provisions;
* Usage of the acquired knowledge for resolving practical problems for specialization.
* Possession of modern scientific research techniques.
* Ascertainment of modern methods of scientific research;
* Presentation of public discourse skills and defending scientific ideas, proposals and recommendations.

The research collected in the CPW must contain elements of scientific novelty and practical relevance. The results must state about the author’s analytical and practical scientific skills their specialized field.

**3.Student’s choice of the CPW from the perspective of the academic program supervisor.**

For accepting the decision and refining the topic the student has to consult with the potential supervisor. The consultations may be organized using the LMS mail system. After enrolling the CPW subject by the student, the head academic supervisor has to make the decision about consolidating the subjects chosen by the students and their supervisors within five days. Order about approval CPW subjects and establishment of deadlines for the final CPW variant must be published no later than 15’th of december of the current year. The order will be prepared by the educational office using the accepted educational program approved by the head of the Higher School of Economics and signed by the dean of the faculty. After giving out the order the Educational office has to give out the list of students and their chosen subject to the CPW supervisors. They can do this though corporate electronic mail or through the LMS system. Simultaneously with giving out the lists the Educational office has to inform the CPW supervisors about the schedule of the different CPW stages and informational about the rules of completing the works.

Changes (that includes clarification) to the CPW subject is possible on the basis of a personal application to the academic supervisor with a justification for such a request. The application must be sent no later than one month after the establishment of the deadlines for the publication of CPW’s final version.

The application must be signed by the student’s academic supervisor. The academic supervisor has the right to decline the student’s request to change his CPW subject, while explaining their decision. In the case of the supervisor agreeing with the student’s application, the subject can be changed with the consent of the dean of the faculty.

The student that didn’t choose their CPW subject on time will be in academic debt. They must liquidate their debt within the deadline stated by law of the Russian Federation and local normative acts of the Higher School of Economics.

**4. Stages of preparation and criteria of assessment of the CPW.**

The schedule of preparing the CPW is decided with input of the student with the CPW supervisor in the order and must follow the given points:

* Presentation by the student to the supervisor his CPW project
* Preliminary presentation of the CPW during the scientific research seminar (which is obligatory for magister students);
* The first publication of the finished CPW to the supervisor, with further editing of the CPW (if required)
* Presentation of the final variant of the CPW to the supervisor;
* Upload of the CPW to the LMS system for checking for plaguarasion using the «Антиплагиат» system;

**5.Evaluation of the CPW by the supervisor;**

The student has to present the final variant of the CPW to the supervisor and to the Academic office of his educational program before the assigned deadline. The final CPW variant is presented by the student to the supervisor in printed from. While giving out his work the student has to present his results from the «Антиплагиат» system.

Accession of the CPW is finished when a mark given by the supervisor. The mark of the CPW is notified to the student using corporate e-mail and though the LMS system.

CPW is marked using the 10 point (rating) system according to the following criteria:

* conformity of the CPW to the approved subject;
* relevance of the research subject and objectivity of the arguments presented within it;
* Fulfillment of the main CPW goals and objectives, objectivity and correctness of the formulated results and their conformity to the goals and objectives stated in the work;
* Originality and novelty of the CPW;
* Depth of analysis, the ability to understand the raised issues;
* Correctness of the study and interpretation of the results
* Proper grammar, logic and exposition of the material;
* Formalization of the work.

In case of a proven plagiarization of CPW the student may face disciplinary action, regulated by the university norms for violations of academic standards in teaching and writing research in HSE.

Student that got an unsatisfactory mark for for his CPW placed in academic debt. They must liquidate their debt within the deadline stated by law of the Russian Federation and local normative acts of the Higher School of Economics. Usually, the student will be required to redo the CPW or correct mistakes that they committed previously. The student has to consult his CPW supervisor if he wants to change the subject of his CPW before they redo it. If the supervisor agrees, the change has to be approved by the Academic office and by the dean of the faculty.

**6. Stages of CPW preparation**

**CPW preparation.** During this stage the student has to formulate his hypothesis and key ideas of their work, bring up the main problem to which the CPW will aim to resolve, as well as the overall structure of the CPW. The CPW can be prepared by the student during the scientific research seminar with assistance from their supervisor.

The CPW project is assessed by the CPW supervisor using the “approved”/’not approved’ system; the mark is fixated in the teacher’s worksheet and in the LMS. The student should be notified through their corporate mail or through the LMS.

Presentation of the first CPW variant. The text of the first CPW variant is given to the CPW supervisor for review. Presentation of the CPW has to be organized according to the pre-planned schedule.

.Upload of the CPW into the «Антиплагиат»system. The student has to upload their final version of the CPW in a digital non-scanned form into a specific LMS model, after the upload is finished it will be automatically submitted into the «Антиплагиат» system. In the case work plagiarization being confirmed, the student may face directorial punishment.

**Presentation of the final CPW variant to the academic office.** The final variant of the CPW is presented by the student to the academic office in printed form with added annotations in russian and english language, with added feedback from the supervisor and reference and the registration list from the antiplagiarist system. The student may use any electronic device capable of holding the digital version of the CPW. The student must present his work before the deadline.

Defence of the CPW is regulated by the doctrine on state final certification of students of the HSE.

**7. Requirements for structure, contents and volume of the course project work and graduation qualification work.**

Structure, contents and volume requirements for course project work

The course project work must:

- Include the explanation of the relevance of the subject;

-The work must match the chosen subject;

-The work must set a specific goal of the research;

-The work must perform an objective analysis and summary of known achievements and fact of the chosen research field;

-The work must reflect the given knowledge of the chosen research field;

-The work must reflect the current state of the given problem;

-The work must be the original product of the student and has to have a unique position on the given subject.

For course project work, created for Master’s degree, the student has to:

-Execute their research on the given subject using the scientific method.

-Prove the direct connection between the research conducted and the given results.

It is also highly recommended to point out in the given results elements of scientific novelty and recommend the further trajectory for research.

The overall volume of the course project work must be

For masters - no less than 70 pages of printed text. Designed in accordance with the requirements, given in the Rules for preparing course project works and given recommendations;

Typical course project work structure;

1. Title page

2. Contents page

3. Introduction

4. Main chapters

5. Conclusion

6. List of the references

7. Appendix

Title page and contents are places on the first two pages of the work.

In the introduction the following points much be addressed.

* Formulation of the subject;
* Relevance of the given subject, its theoretical and/or practical purpose.
* Level of scientific elaboration of the research;
* Goal of the research;
* Explanation which order the author is planning to solve the problems at hand;

Announcement of the structure of the work;

Characteristics of the main information sources.

The introduction has to be short (1-3 pages) and concrete. It must be clear to what the work is dedicated to, what goals are present and what are the methods of solving them.

Goals of the research determine its direction in which author develops the subject of the course project work. Thus the title of the work is usually the main as the main objective of the research

While developing the CPW the author has to pick a specific object of research. The object of research can be any process relevant to the research subject.

The main part consists out of chapters, which can be divided in to paragraphs, which in term can be divided in to items.

The first section usually has a theoretical purpose, in which the author makes a critical analysis of the given material and draws their conclusions that would later be used in resolution of the given problems.

Material from monographs and journal entries and other sources is recommended to be paraphrased and to be expressed in statistics and graphs.

In later sections the author should include the methods of solving the problems presented in the text.

The contents of the practical part of the CPW must be concrete and objective, which means that they should be backed up by research and links to sources.

Each chapter of the work must be finished with a brief summary.

In the conclusion the author has to formulate the results gathered during the development of the course project work and main conclusions that may be gathered from it.

The list of used literature must be arranged in a certain order. It must include all the literate used during the CPW, as well as the links, authors and their publication houses.

The appendix is not a necessary element of the CPW. It is recommended when the author uses large statistics, graphs and charts.

In the CPW the author must maintain the scientific style of writing and terminology that is used in the jargon of the field. The author should avoid using slang and abbreviations. The author should avoid logical mistakes, syntax and grammas mistakes.

**8. Technical clearance requirements for course project and graduation work.**

The CPW and GW are usually prepared using most common text editors. The most recommended one is Microsoft Word, however Google’s Docs service may suffice, providing one saves in the DOCX file format. A single example of the work must be provided for defense to the department. The document must be printed on standard A4 white office paper (210x297 mm / 8.27x11.7 inches). The text must be printed on a single side.

Document field sizes: upper field - 2 centimeters, lower field - 2 s centimeters, left field - 3 centimeters, right field - 1,5 centimeters, overall amount of characters per page - 2000.

Main text and list of used literature. Font size - 14. Line spacing - 1, 15 centimeters. Paragraph indent - 1,25 sm. Width adjustment - center. Paragraph intervals - 0.Names of parts is printed in uppercase letters without the dot on the end. Font size - 13. Line spacing 1,15. Width adjustment - center. Distance between chapter headlines and text - 1 empty line. Each chapter begins on a new page; this can refer to other basic CPW structures.

CPW pages much have proper numerations. The first page is the title page, on which the page number is not displayed. The numeration must be displayed in Arabic numerals in the bottom of the page without a dot.

**9. Rules for figuration of the literature list.**

The list of used literature may include links to academic sources, various publications, instructive and legislative materials, statistical and sociological materials, web pages and other materials used in the CPW. If the author used material in a foreign language then he must reference the material in the language of the original.