MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF ECONOMICS

PROJECT MANAGEMENT

Guidelines for completing a course work

of Master's (second) degree higher education students, speciality 051 "Economics" of the educational program "Business Economics"

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The procedure for writing, design and defense of a course work is considered. An approximate list of topics proposed for consideration, requirements for the structure, volume, content and design of the course work, as well as examples of the design of its main structural elements, are given.

For Master's (second) degree higher education students of speciality 051 "Economics" of the educational and professional program "Business Economics".

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Introduction

A course work on project management is an independent research work of a higher education student, which involves systematization, consolidation and application of theoretical knowledge in solving specific practical situations; development of independent work skills and mastering of research and experiment methods related to the subject of the course work. According to the curriculum, a course work on project management is performed by a student of higher education of the second (master's) level of education, speciality 051 "Economics" of the educational program "Business Economics".

The purpose of the course work on project management is to systematize, consolidate and expand students' theoretical and practical knowledge of the theory and practice of project management, to develop the skills to apply them when solving specific practical tasks; to acquire the skills in searching for modern scientific achievements in the field of project management and the ability to use them independently when solving applied problems; to prepare students of higher education for independent practical activities.

The main tasks of the course work are:

systematization, deepening and consolidation of theoretical knowledge on project management;

development of skills in independent theoretical and analytical research aimed at the analysis of problems and practical situations using modern methods and information technologies;

development and evaluation of alternative approaches to the justification of management decisions regarding the effective development of economic entities, taking into account goals, resources, limitations and risks;

preparations of students for independent work in the modern communication and business environment.

The course work is characterized by the unity of goals and tasks. In the course of implementation of the course work, the student must demonstrate the ability to competently solve tasks in the field of his professional training. The practical significance of the course work consists in ensuring the implementation of its results for the needs of practice. Work is considered real, if its results use objective data and can be implemented in the activities of an enterprise or a business project.

The results of training and competences according to the educational component, which students acquire during the study of the academic discipline, are shown in Table 1.

Table 1

Learning outcomes and competences according to the educational component

Learning outcomes	Competences
LO1	GC6
LO2	GC1, GC3, GC7, SC4, SC8
LO4	GC2, GC6, GC8, SC4, SC6, SC7, SC10, SC11
LO5	GC6, GC7, SC11
LO6	GC6, SC8
LO7	SC11
LO10	GC6, GC8, SC3, SC4, SC11
LO11	GC6
LO12	GC5
LO13	SC5, SC8, SC10
LO15	GC1, GC3, GC6, SC11

Note.

LO1. Ability to formulate, analyze and synthesize solutions to scientific and practical problems.

LO2. Ability to develop, justify and make effective decisions on the development of socio-economic systems and management of subjects of economic activity.

LO4. Ability to develop socio-economic projects and a system of complex actions for project implementation, taking into account their goals, expected socio-economic consequences, risks, legislative, resource and other restrictions.

LO5. Ability to adhere to the principles of academic integrity.

LO6. Ability to evaluate the results of one's own work, demonstrate leadership skills and the ability to manage personnel and work in a team.

LO7. Ability to choose effective methods of managing economic activity, substantiate the proposed solutions on the basis of relevant data and scientific and applied research.

LO10. Ability to apply modern information technologies and specialized software in socio-economic research and management of socio-economic systems.

LO11. Ability to determine and critically evaluate the state and trends of socio-economic development, form and analyze models of economic systems and processes.

LO12. Ability to substantiate management decisions regarding the effective development of economic entities, taking into account goals, resources, limitations and risks.

LO13. Ability to assess possible risks, socio-economic consequences of management decisions.

LO15. Ability to organize the development and implementation of socio-economic projects, taking into account informational, methodical, material, financial and personnel support.

GC1. Ability to generate new ideas (creativity).

GC2. Ability to think abstractly, analyze and synthesize.

GC3. Ability to motivate people and move towards a common goal.

GC5. Ability to work in a team.

GC6. Ability to develop and manage projects.

GC7. Ability to act on the basis of ethical considerations (motives).

GC8. Ability to conduct research at an appropriate level.

SC3. Ability to collect, analyze and process statistical data, scientific and analytical materials, which are necessary for solving complex economic problems, to draw reasonable conclusions based on them.

SC4. Ability to use modern information technologies, methods and techniques for the study of economic and social processes, adequate to the established research needs.

SC5. Ability to identify key trends in socio-economic and human development.

SC6. Ability to formulate professional tasks in the field of economics and solve them, choosing the appropriate directions and appropriate solution methods, taking into account the available resources.

SC7. Ability to substantiate management decisions regarding the effective development of economic entities.

SC8. Ability to assess possible risks, socio-economic consequences of management decisions.

SC10. Ability to develop scenarios and strategies for the development of socio-economic systems.

SC11. Ability to plan and develop projects in the field of economics, to implement its informational, methodical, material, financial and personnel support.

In the process of writing a term paper, students are obliged to follow the rules of professional ethics, which do not allow plagiarism, falsification of data and false citation.

1. General requirements for the structure and content of the course work

The course work is performed independently in consultation with the teacher in accordance with the schedule of the educational process and assumes the presence of the following elements of scientific research: practical significance; a complex system approach to solving research problems; theoretical use of advanced modern methodology and scientific developments; the presence of elements of creativity, the ability to use modern technologies.

A comprehensive systematic approach to the disclosure of the topic of the course work consists in the fact that the subject of research is considered from different angles – from the standpoint of the theoretical base and practical developments, the conditions of implementation of the approach in practice, analysis, justification of the ways of implementation. The application of modern methodology consists in the fact that when developing a project, the student must use information about the latest achievements in research techniques and technologies, apply various methods and tools of project development (Microsoft Project), approaches to optimization of project parameters.

The list of recommended topics of the project management course work is presented in Appendix A. The topic of the course work can be changed, specified or proposed by the student himself, but it must be agreed with the teacher.

In the process of writing a paper, a certain sequence should be followed. The most acceptable is a holistic method of work preparation. In this case, the sequence of writing and editing sections of the course work is as follows: first, the introduction, the first section, the second section, and the third section are formed. After that, the main part of the work is edited – sections and appendices to them. Next, the content of the introduction is clarified. The next stage is the formation of the list of the used sources, the table of contents and the title page. After completion of the work, the introduction is finally edited.

The structure of the course work on project management must be followed. The work should consist of the following structural parts:

the title page;

the contents;

the introduction (a project abstract);

the main part;

a list of the used literature;

appendices.

The title page must contain the name of the university; the name of the department; the topic of the course work; the surname, the initials of the student, the course, the number of the academic group, the surname of the scientific supervisor; the city and year (Appendix B).

The table of contents includes a list of all the constituent parts of the work, namely: introduction, names of all sections and subsections of the main part, a list of the used literature indicating the page numbers from which these constituent parts begin. An example is given in Appendix C.

the introduction should not exceed 3 pages. It substantiates the relevance and goals of the project, provides a brief description of the project with justification of its significance (reasons for its occurrence).

The main part of the course work should consist of three sections, which highlight the key issues of the topic.

Section 1. Description of the project. It contains an assessment of the selected project idea using the PATTERN objective tree construction method (Appendix D), a description of the product or service that is created within the framework of the project, an analysis of the impact of external factors (PEST analysis) on the implementation of project ideas, analysis of the target audience of the project, analysis of the project using the construction of the Sanvas business model (Appendix E).

Section 2. Project organization. In this section, the student must determine the start date of the project and the terms of implementation of the project, develop a list of works that are part of the project, based on: the specifics of the project and its goals; phases and stages of the project life cycle; requirements for final results; limitations of the project, determine the resources necessary for the implementation of the project (labour, material, financial), establish the roles and responsibilities of project participants (the matrix of the distribution of functions of project participants) (Appendix F).

Section 3. Risk and quality management for the project. In this section, the student must identify the possible risks of project implementation and develop an action plan that will help reduce the impact of the risk or reduce its probability. Determine the requirements for the quality of the product or service that the project must provide.

Sections should be logically connected and contain points according to the course work plan.

The list of the used literature should contain all literary sources that were used in the course of writing the term paper.

Appendices. A printed network diagram using Microsoft Project tools, as well as diagrams, charts and other illustrations can be included in the appendices.

2. Requirements for the registration of a course work

2.1. The main part

The total volume of the complex term paper should be 35 – 40 pages of printed text (without appendices). The language of the work is Ukrainian or English, the style is scientific, clear, without spelling and syntactic errors, the sequence is logical. Linguistic features of the scientific style are presented in Appendix G. Direct rewriting of materials from literary sources in the work is unacceptable.

The work must be printed on one side of the pages of standard white A4 paper (210×297 mm), using computer typesetting: font size 14, spacing 1.5, Times New Roman. It is allowed to place tables and other illustrative materials on sheets of A3 format (no more than 40 lines per page).

The text of the term paper is placed on the sheet with the following margin sizes: 30 mm left, 10 mm right, 20 mm top, 20 mm bottom. The work is performed using a computer.

The pages of the term paper are numbered using Arabic numerals, following the numbering throughout the text. The page number is placed in the upper right corner of the page without a period at the end, Times New Roman, size 12.

The first page of the term paper is the title page, which is included in the general numbering of the pages of the paper. The page number is not placed on the title page and the table of contents. On the following pages, starting from the second page of the introduction, the number is placed in the upper right corner of the page without a period at the end, taking into account the previous pages.

The table of contents contains the names and numbers of the initial pages of all sections and subsections of the work. The table of contents should include all the headings that are in the work, starting with the introduction and ending with the appendices.

The headings of the structural parts of the course work "CONTENTS", "INTRODUCTION", "SECTION", "REFERENCES", "APPENDICES" are printed in capital letters symmetrically to the text. Headings of subsections are printed in small letters (except for the first capital letter) with paragraph indentation. Do not put a period at the end of the title.

The distance between the title (except for the paragraph title) and the text should be equal to 2 spaces of the main text. Each structural part of the course work should be started on a new page.

2.2. Numbering

The numbering of pages, sections, subsections, subsections, figures, tables, formulas is given in Arabic numbers without a sign "No.".

The first page of the term paper is the title page, which is included in the general page numbering and on which the page number is not placed. Numbering without a dot after it is placed in the upper right corner of subsequent pages.

CONTENTS, INTRODUCTION, REFERENCES, APPENDICES as sections are not numbered. The section number is placed after the word.

"SECTION". Subsections are numbered within each section using the section number and the serial number of the subsection separated by a period, for example, "1.1" (the first subsection of the first section). Then, in the same line, there is a subsection heading.

2.3. Illustrations

2.3.1. Illustrate term papers based on a certain general idea, according to a carefully thought-out thematic plan, which helps to avoid random illustrations related to secondary details of the text, as well as to prevent unjustified omissions of illustrations to the most important topics. Each illustration should correspond to the text, and the text to the illustrations.

2.3.2. The names of the illustrations are placed after their numbers. If necessary, the illustrations are supplemented with explanatory data.

2.3.3. A caption under an illustration usually has four main elements:

the name of the graphic plot (indicated by the abbreviated word "Fig.";

the serial number of the illustration, which is indicated without a number sign in Arabic numerals;

the thematic title of the illustration, containing text with as concise a description of the image as possible.

2.3.4. The main types of illustrative material in the course work are: a drawing, a technical drawing, a scheme, a diagram, a graph.

You should not design links to illustrations as independent phrases that only repeat what is contained in the caption. In the place where the topic related to the illustration is presented, and where the reader needs to point to it, a reference is placed in the form of an expression in round brackets "(Fig. 3.1)" or a reversal of the type: "... as can be seen from Fig. 3.1" or "... as shown in Fig. 3.1".

2.4. Tables

2.4.1. Digital material, as a rule, should be presented in the form of tables.

2.4.2. Each table should have a title, which is placed above the table and printed symmetrically to the text. The name and the word *"Table"* starts with a capital letter. The name is given in bold.

According to the logic of the construction of the table, its logical subject (designation of those subjects that are characterized in it) is placed in the sidebar, the head or both, and not in the columns; the logical subject of the table (that is, the data that characterizes the subject) is in the columns, not in the header or sidebar. Each heading above a column refers to all the data in that column, each row heading in the sidebar refers to that row.

The title of each column in the table header should be as short as possible. It is necessary to avoid repetition of the thematic title in the headings of graphs, the units of measurement should be indicated in the thematic title, and words that are repeated should be placed in generalizing headings.

The sidebar, like the head, needs brevity. Repeated words here are also put into unifying rubrics; words common to all sidebar headings are placed in the heading above it.

In the columns, repeated elements that apply to the entire table are placed in the thematic heading or in the heading of the columns; homogeneous numerical data are placed so that their classes coincide; heterogeneous, data are put in the middle of the graphs; quotation marks are used only in place of identical words that stand one below the other.

Headings of graphs should start with capital letters, subheadings begin with small letters if they form one sentence with the heading, and with capital letters if they are independent. The height of the lines should be at least 8 mm. It is not necessary to include the column with the serial numbers of the rows in the table.

2.4.3. The table is placed after the first mention of it in the text so that it can be read without turning the interlaced block of work or with clockwise rotation. A table with a large number of rows can be moved to the next page.

2.4.4. When the table is transferred to the next page, the name is placed only above its first part. A table with a large number of graphs can be divided into parts and placed one part under the other within one page. If the rows or columns of the table exceed the page format, then in the first case, the header is repeated in each part of the table, in the second it is done in the sidebar.

If the text that is repeated in the column of the table consists of one word, it can be replaced with quotation marks; if it consists of two or more words, then at the first repetition it is replaced by the words "The same", and then by quotation marks. It is not possible to put quotation marks instead of repeating numbers, brands, signs, mathematical and chemical symbols. If digital or other data are not provided in any row of the table, then a dash is placed in it.

2.5. Formulas

2.5.1. Certain rules must be followed when using formulas.

The largest, as well as long and cumbersome formulas, which include signs of addition, multiplication, differentiation, integration, are placed on separate lines. This also applies to all numbered formulas. To save space, several short formulas of the same type, separated from the text, can be presented in one line, and not one under the other. Small simple formulas that do not have an independent meaning are entered into the lines of the text.

Explanations of the values of symbols and numerical coefficients should be given directly below the formula in the sequence in which they are given in the formula. The value of each symbol and numerical coefficient must be entered on a new line. The first line of the explanation begins with the word "where" without a colon.

2.5.2. Equations and formulas should be separated from the text. Above and below each formula an interval of at least one lines is left. If the equation does not fit in one line, it is transferred after the equal sign (=) or after the plus (+), minus (–), multiplication (x) signs.

Only those formulas that are referenced later in the text should be numbered. It is not recommended to number others.

2.5.3. Serial numbers are indicated by Arabic numerals in round brackets near the right margin of the page without periods from the formula to its number. The number that does not fit in the line with the formula is moved to the next one below the formula. The number of the formula when it is transferred is placed at the level of the last line. If the formula is taken in a frame, then its number is written outside the frame on the right side opposite the main line of the formula. The number of the formula-fraction is given at the level of the main horizontal line of the formula.

The number of the group of formulas placed on separate lines and united by a curly bracket (parentheses) is placed to the right of the point of the parenthesis, which is inside the group of formulas and is directed towards the number.

2.5.4. The general rule of punctuation in a text with formulas is as follows: the formula enters the sentence as its equal element. Therefore, at the end of the formulas and in the text before them, punctuation marks are placed in accordance with the rules of punctuation.

Delimiters between formulas that follow one another and are not separated by text can be a comma or a semicolon directly after the formula to its number.

Delimiters between parenthetical formulas are placed inside parentheses. After such cumbersome mathematical expressions as determinants and matrices, you can not put punctuation marks.

2.6. General rules of citation and references to the used sources

2.6.1. When writing a term paper, a student of higher education must refer to the sources, materials or individual results from which the work is cited, or based on the ideas and conclusions of which problems, tasks, and questions are developed, the study of which is devoted to the diploma work. Such links make it possible to find documents, check the reliability of information about the citation of a document, provide the necessary information about it, help to find out its content, language of the text, volume. Reference should be made to the latest editions of publications. Earlier editions may be referred to only if the material contained in them is not included in the latest edition.

2.6.2. If information, materials from monographs, review articles, other sources with a large number of pages are used, then the page numbers, illustrations, tables, formulas from the source to which there is a reference in the work must be accurately indicated in the reference.

References in the text of the term paper to sources should be indicated by a serial number in the list of references, separated by two square brackets, for example, "... in works [1 – 7] ...".

When in the text of the term paper it is necessary to make a reference to a component part or specific pages of the corresponding source, the reference can be given in square brackets, while the reference number must correspond to its bibliographic description in the list of references.

2.6.3. References to the formulas of the course work are indicated by the serial number of the formula in round brackets, for example: "... in formula (2.1)".

All tables of the work must be referred to in the text, for example: "... in Table 1.2".

In repeated references to tables and illustrations, the word "see" should be indicated, for example: "see Table 1.3".

2.6.4. Citations should be given to support one's arguments by referring to an authoritative source or to critically analyze a particular printed work. Scientific etiquette requires an exact reproduction of the quoted text, because the slightest shortening of the given extract can distort the meaning laid down by the author.

The general requirements for citation are as follows:

a) the text of the quotation begins and ends with quotation marks and is given in the grammatical form in which it is presented in the source, preserving the features of the author's writing. Scientific terms proposed by other authors are not separated by quotation marks, except for those that have caused general controversy. In these cases, the expression "so-called" is used;

b) the citation must be complete, without arbitrarily shortening the author's text and without twisting the author's thoughts. Omission of words, sentences, paragraphs when quoting is allowed without distorting the author's text and is indicated by three dots. They are placed anywhere in the quote (at the beginning, in the middle, at the end). If there was a punctuation mark before or after the omitted text, it is not saved;

c) each quote must be accompanied by a reference to the source;

d) in the case of indirect quoting (retelling, presentation of the opinions of other authors in one's own words), which gives a significant saving of the text, one should be precise in the presentation of the author's opinions, correct in evaluating his results and give appropriate references to the source;

e) if it is necessary to reveal the attitude of the author of the work to certain words or thoughts from the quoted text, then an exclamation mark or a question mark is placed after them in round brackets.

2.7. Preparation of the list of the used sources

2.7.1. The list of the used sources is an element of the bibliographic apparatus, which contains bibliographic descriptions of the used sources and is placed after the conclusions.

2.7.2. The bibliographic description is compiled directly according to the printed work or written out from the catalogs and bibliographic indexes completely without omissions of any elements, abbreviations of names, etc. Thanks to this, you can avoid repeated checks, insertion of missing information.

2.7.3. Sources can be placed in one of the following ways: in the order of appearance of references in the text, or in alphabetical order of the surnames of the first authors or titles, in chronological order.

2.7.4. Information about the sources included in the list must be given in accordance with the requirements of the state standard DSTU 8302:2015 "Information and documentation. Bibliographic reference. General provisions and rules of compilation" with the obligatory indication of the titles of works (Appendix H).

2.8. Appendices

2.8.1. Appendices are drawn up as a continuation of the course work on its following pages or as a separate part, placing them in the order of appearance of links in the text.

2.8.2. If appendices are drawn up on subsequent pages of the work, each such appendix must begin on a new page. The appendix must have a title, printed at the top in lowercase letters with the first capital letter, symmetrically relative to the text of the page. In the middle of the line above the title, the word "Appendix _" and a capital letter denoting the appendix are printed in small letters with the first capital letter.

2.8.3. Appendices should be marked consecutively with capital letters of the alphabet, for example: Appendix A, Appendix B. One appendix is designated as Appendix A (without the sign "No.")

2.8.4. The word "APPENDICES" is printed in capital letters on a separate sheet.

2.8.5. The text of each appendix may, if necessary, be divided into sections and subsections, which are numbered within each appendix. In this case, each number is preceded by a designation of the appendix (letter) and a dot, for example: A.2 – the second section of appendix A; B.3.1 – the first subsection of the third section of Appendix B.

2.8.6. Illustrations, tables and formulas placed in the appendices are numbered within each appendix, for example: Fig. D.1.2 – the second figure of the first section of Appendix D; formula (A.1) is the first formula of Appendix A.

3. Preparation and the course work defense procedure

3.1. Preparation and defense of the course work

Within the terms determined by the department, the student is obliged to report on the completed work, to appear on time for consultations according to the supervisor's schedule, and to submit the written sections to the supervisor. The completed course work is submitted to the supervisor for review. For this verification, the student submits printed and electronic versions of the course work with mandatory attachments. If the course work is completed and designed in accordance with the requirements for this type of work, the student receives a positive feedback from the supervisor and submits the work for defense.

The defense of the completed course work is conducted in an open format. The personal composition of the commission members is approved at the department meeting. The course work defense procedure involves:

public performance of the student with a report (the relevance of the researched problem, the purpose, the content, scientific novelty and practical value of the course work are determined). The speech must be related to the given illustrative material, which must be referred to during the report. The student's report must be accompanied by the use of multimedia equipment (a projector). The recommended duration of the student's report is 5 – 7 minutes;

answers to the supervisor's questions and comments;

summarizing the results of the defense of the work (an assessment of the course work of each student is provided).

Protected term papers are submitted to the department by the academic supervisor.

3.2. Assessment of the course work

Course works are evaluated on a 100-point scale (Table 2). During the evaluation of the course work, the following is taken into account: the degree of disclosure of the topic; the content and quality of the work performance;

conformity of registration with requirements; completeness and accuracy of answers to questions.

Table 2

The scale for evaluating the results of defense of the course work

Rating (on a four-point scale)	Rating (on a 100-point scale)
Perfect	90 – 100
Good	74 – 89
Satisfactor	60 – 73
Unsatisfactor	1 – 59

Higher education students who did not defend the course work in the appointed time will have an academic debt.

Course work assessment criteria:

100 (90) points – the course work was completed in full compliance with the requirements of the methodological recommendations for the course work performance; the content of all paragraphs of the course work corresponds to the approved plan; the developed charter of the project is fully substantiated, the materials of textbooks and manuals, monographs, statistical collections and reference books, periodicals and the Internet are used, the ethics of links are respected; the student confirms the high level of acquired theoretical knowledge and acquired practical skills during the defense, provides correct and reasoned answers to all questions of commission members.

89 (74) points – the course work was completed in accordance with the requirements of the methodical recommendations for the course work performance; the content of all paragraphs of the course work as a whole corresponds to the approved plan, however, there are minor comments regarding the content and design; the developed charter of the project generally covers the necessary information; the materials of textbooks and manuals, monographs, statistical collections and reference books, periodicals and the Internet are involved, the ethics of links are partially observed; the student confirms the appropriate level of the knowledge and skills during the defense, the answers to the questions of the commission members are generally correct.

73 (60) points – the course work was completed in partial compliance with the requirements of the methodological recommendations for the course work performance; the content of the course work paragraphs partially corresponds to the approved plan; the developed project charter contains incomplete information; the materials of textbooks and manuals, monographs, statistical collections and reference books, periodicals and the Internet are not up-to-date and partially involved, the ethics of links are partially observed; significant deficiencies in theoretical knowledge are noted, basic skills and abilities are insufficiently formed, answers to the questions of commission members are weakly argued.

59 (1) points – the course work does not meet the requirements of the methodological recommendations for the course work performance; the content of the paragraphs does not correspond to the approved plan; the project charter has not been developed; the materials of textbooks and manuals, monographs, statistical collections and reference books, periodicals and the Internet are partially used, the ethics of links is not observed; the student does not have theoretical knowledge, does not give satisfactory answers to the questions of commission members, does not orient himself in the topic of the course work.

Recommended reading

Main

1. Алексєєнко І. І. Управління проєктами та вартістю підприємства в умовах цифровізації: аналіз бізнес-процесів і візуалізація фінансових даних / І. І. Алексєєнко, С. В. Лелюк, О. П. Полтініна // Цифрова економіка як фактор економічного зростання держави : колект. монографія. Херсон : Гельветика, 2021. С. 80–98. – URL: http://www.repository.hneu.edu.ua/handle/123456789/27824.

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Appendices

Appendix A

A recommended list of project management course work topics

1. Development of a project to improve the personnel motivation system at the enterprise.
2. Development of a project to improve working conditions at the enterprise.
3. Development of a project to improve the labour productivity of the company's personnel.
4. Development of a project to develop the business career of the company's personnel.
5. Development of a project to improve the personnel management system at the enterprise.
6. Development of a project to change the organizational structure of the enterprise.
7. Development of a project to expand production volumes at the enterprise.
8. Development of a project to improve the quality of the company's products.
9. Development of a project to reduce enterprise (costs or components of its activity).
10. Development of a project to optimize enterprise costs.
11. Development of a project to update the product range of the enterprise.
12. Development of the enterprise diversification project.
13. Development of a project to increase the competitiveness of the enterprise.
14. Development of a project to increase the competitiveness of the company's products.
15. Development of a project to increase the profitability of the enterprise.
16. Development of the investment project of the enterprise.
17. Development of an innovative enterprise project.
18. Development of the enterprise's project to enter foreign markets.

19. Development of a project on the development of the company's competitive advantages based on benchmarking.

20. Development of a product advertising campaign project.

21. Development of a branding project.

22. Development of a project for the introduction of information systems into the company's activities.

23. Development of a project to create a corporate website of the enterprise.

24. Development of a project on the formation of the company's digital marketing strategy.

25. Development of a project to increase the economic security of the enterprise.

26. Development of a project to improve the strategic management system at the enterprise.

27. Development of a risk management project at the enterprise.

28. Development of a project to increase the use of the company's financial resources.

29. Development of a project on the management of strategic changes of the enterprise.

30. Development of a project to update the company's fixed assets.

Appendix B

The title page of the term paper

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SIMON KUZNETS KHARKIV NATIONAL UNIVERSITY OF ECONOMICS
FACULTY OF ECONOMICS AND LAW
DEPARTMENT OF BUSINESS ECONOMICS AND BUSINESS ORGANIZATION

COURSE WORK ON PROJECT MANAGEMENT
ON THE SUBJECT:
"PROJECT DEVELOPMENT …"

Performed by: the 1st year student
of the master's degree,
group _____
(code and name of training direction, speciality)
_____
(surname and initials)
Head: _____
(position, academic title, scientific degree, surname and initials)

Kharkiv – 2025

Appendix C

An example of design of the course work contents

CONTENTS

Appendix D

An example of evaluating a project idea using the PATTERN method

The tree of goals of the project, aimed at increasing the competitiveness of the products of the enterprise for the production of glass products, is presented in Fig. D.1.

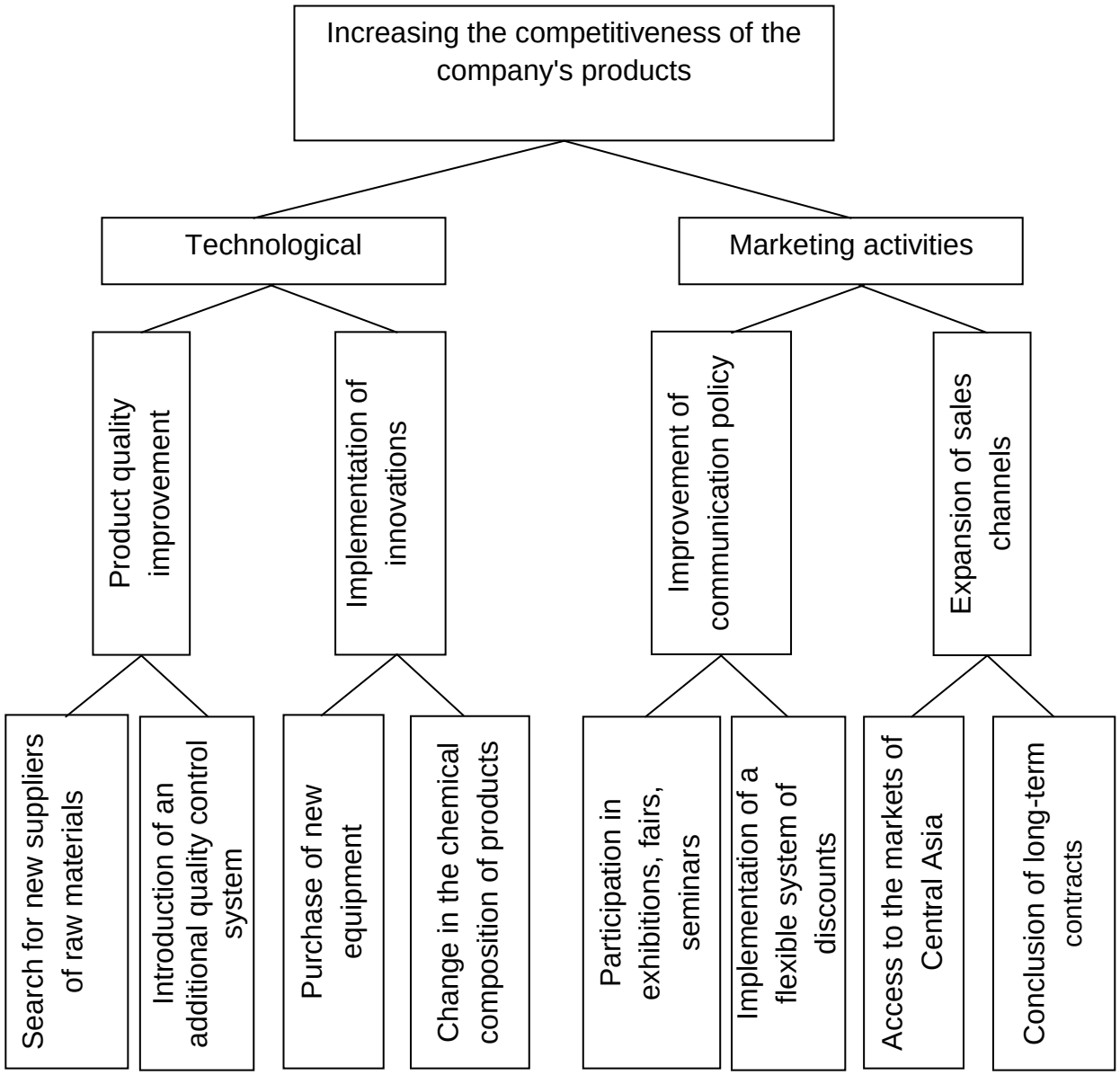

Fig. D.1. **A tree of goals for increasing the competitiveness of products**

For the first level of the hierarchy the following criteria were proposed:

increase in sales volumes (O_1);

increase in market share (O_2).

The weight of each criterion should be determined by the ranking method.

The company's financial director, production director, sales director, and deputy quality director act as experts.

Weighting coefficients are calculated according to formula (D.1):

$$W_i = \frac{\sum_{i=1}^{N} r_{ij}}{\sum_{i=1}^{n} \sum_{i=1}^{N} r_{ij}}, \quad \text{(D.1)}$$

where N is the number of experts;

r_{ij} is the rank assigned to the i-th criterion by the j-th expert;

n is the number of criteria.

Expert 1: About$_1$ > About$_2$

Expert 2: About$_1$ > About$_2$

Expert 3: O_2 > O_1

Expert 4: About$_1$ > About$_2$

$r_{1(1-4)}$ = 2 + 2 + 1 + 2 = 7

$r_{2(1-4)}$ = 1 + 1 + 2 + 1 = 5

W_1 = 7 / 12 = 0.58

W_2 = 5 / 12 = 0.42

Next, the experts put the contribution of the task to the provision of the criterion (Table D.1) and the connection coefficient (C_{ij}) is determined, which represents the sum of the products of all the weighting coefficients (W) by the corresponding contribution coefficient (V):

$$C_{ij} = \sum_{0}^{k} W \times V, \quad \text{(D.2)}$$

where i is the level of the task;

j is a task.

Table D.1

Determination of the contribution of a specific task to the provision of criteria

Expert	Contribution	Result
Criterion 1, increase in sales volumes		
Expert 1	$P_2 > P_1$	$P_1 = 1 + 2 + 1 + 2 = 6$ $P_2 = 2 + 1 + 2 + 1 = 6$ $V_1 = 6/12 = 0.5$ $V_2 = 6/12 = 0.5$
Expert 2	$P_1 > P_2$	
Expert 3	$P_2 > P_1$	
Expert 4	$P_1 > P_2$	
Criterion 2, increase in market share		
Expert 1	$P_2 > P_1$	$P_1 = 1 + 2 + 1 + 1 = 5$ $P_2 = 2 + 1 + 2 + 2 = 7$ $V_1 = 5/12 = 0.42$ $V_2 = 7/12 = 0.58$
Expert 2	$P_1 > P_2$	
Expert 3	$P_2 > P_1$	
Expert 4	$P_2 > P_1$	

The obtained results and the calculation of the correlation coefficient are presented in Table D.2.

Table D.2

Expert evaluations at the first level of the hierarchy

Criteria	Expert evaluations		
	W	V	
		Technological measures	Marketing activities
Increase in sales volume	0.58	0.5	0.5
Increasing market share	0.42	0.42	0.58
Task correlation		0.47	0.53

For the second level of the hierarchy the following criteria were proposed:

cost reduction (O_1);

increase in product profitability (O_2).

Expert 1: $About_1 > About_2$

Expert 2: $About_1 > About_2$

Expert 3: $O_2 > O_1$

Expert 4: $About_1 > About_2$

$r_{1(1-4)} = 2 + 2 + 1 + 2 = 7$; $r_{2(1-4)} = 1 + 1 + 2 + 1 = 5$

$W_1 = 7/12 = 0.58$; $W_2 = 5/12 = 0.42$

The calculation of the contribution of the task to the provision of criteria at the second level of the hierarchy is presented in Table D.3.

Table D.3

Determination of the contribution of a specific task to the provision of criteria

Expert	Contribution	Result
Criterion 1, cost reduction P_1, improvement of product quality P_2, implementation of innovations		
Expert 1	$P_2 > P_1$	$P_1 = 1 + 1 + 1 + 1 = 4$ $P_2 = 2 + 2 + 2 + 2 = 8$ $V_1 = 4/12 = 0.33$ $V_2 = 8/12 = 0.67$
Expert 2	$P_2 > P_1$	
Expert 3	$P_2 > P_1$	
Expert 4	$P_2 > P_1$	
Criterion 1, cost reduction P_1, improvement of communication policy P_2, expansion of sales channels		
Expert 1	$P_2 > P_1$	$P_1 = 1 + 1 + 2 + 1 = 5$ $P_2 = 2 + 2 + 1 + 2 = 7$ $V_1 = 5/12 = 0.42$ $V_2 = 7/12 = 0.58$
Expert 2	$P_2 > P_1$	
Expert 3	$P_1 > P_2$	
Expert 4	$P_2 > P_1$	
Criterion 2, increase in product profitability P_1, improvement of product quality P_2, implementation of innovations		
Expert 1	$P_1 > P_2$	$P_1 = 2 + 1 + 1 + 2 = 6$ $P_2 = 1 + 2 + 2 + 1 = 6$ $V_1 = 6/12 = 0.5$ $V_2 = 6/12 = 0.5$
Expert 2	$P_2 > P_1$	
Expert 3	$P_2 > P_1$	
Expert 4	$P_1 > P_2$	
Criterion 2, increase in product profitability P_1, improvement of communication policy P_2, expansion of sales channels		
Expert 1	$P_2 > P_1$	$P_1 = 1 + 1 + 2 + 1 = 5$ $P_2 = 2 + 2 + 1 + 2 = 7$ $V_1 = 5/12 = 0.42$ $V_2 = 7/12 = 0.58$
Expert 2	$P_2 > P_1$	
Expert 3	$P_1 > P_2$	
Expert 4	$P_2 > P_1$	

The obtained results and the calculation of the correlation coefficient are presented in Table D.4.

Table D.4

Expert evaluations at the first level of the hierarchy

Criteria	Expert evaluations				
	W	V			
		Product quality improvement	Implementation of innovations	Improvement of communication policy	Expansion of sales channels
Cost reduction	0.58	0.33	0.67	0.5	0.5
Increasing product profitability	0.42	0.42	0.58	0.42	0.58
Task correlation coefficient (r_{ij})		0.37	0.63	0.47	0.53

For the third level of the hierarchy the following criteria were proposed: increase in net profit (O_1); increase in investment flows (O_2).

The experts chose the following priorities:

Expert 1: $About_2 > About_1$

Expert 2: $About_1 > About_2$

Expert 3: $O_1 > O_1$

Expert 4: $About_1 > About_2$

$r_{1(1-4)} = 2 + 2 + 2 + 1 = 7$

$r_{2(1-4)} = 1 + 1 + 1 + 2 = 5$

$W_1 = 7/12 = 0.58$

$W_2 = 5/12 = 0.42$

The calculation of the contribution of the task to the provision of criteria at the second level of the hierarchy is presented in Table D.5.

Table D.5

Determination of the contribution of a specific task to the provision of criteria

Expert	Contribution	Result
1	2	3
Criterion 1, increase in net profit P_1, search for new suppliers of raw materials P_2, introduction of an additional quality control system		
Expert 1	$P_2 > P_1$	$P_1 = 1 + 2 + 1 + 1 = 5$ $P_2 = 2 + 1 + 2 + 2 = 7$ $V_1 = 5/12 = 0.42$ $V_2 = 7/12 = 0.58$
Expert 2	$P_1 > P_2$	
Expert 3	$P_2 > P_1$	
Expert 4	$P_2 > P_1$	
Criterion 1, increase in net profit P_1, purchase of new equipment P_2, change in the chemical composition of products		
Expert 1	$P_1 > P_2$	$P_1 = 2 + 1 + 2 + 1 = 6$ $P_2 = 1+2+1+2 = 6$ $V_1 = 5/12 = 0.5$ $V_2 = 7/12 = 0.5$
Expert 2	$P_2 > P_1$	
Expert 3	$P_1 > P_2$	
Expert 4	$P_2 > P_1$	
Criterion 1, increase in net profit P_1, participation in exhibitions, fairs, seminars P_2, implementation of a flexible system of discounts		
Expert 1	$P_2 > P_1$	$P_1 = 1 + 1 + 1 + 1 = 4$ $P_2 = 2 + 2 + 2 + 2 = 8$ $V_1 = 5/12 = 0.33$ $V_2 = 7/12 = 0.67$
Expert 2	$P_2 > P_1$	
Expert 3	$P_2 > P_1$	
Expert 4	$P_2 > P_1$	
Criterion 1, increase in net profit P_1, entry into the markets of Central Asia P_2, conclusion of long-term contracts		
Expert 1	$P_1 > P_2$	$P_1 = 2 + 2 + 2 + 2 = 8$ $P_2 = 1 + 1 + 1 + 1 = 4$ $V_1 = 5/12 = 0.67$ $V_2 = 7/12 = 0.33$
Expert 2	$P_1 > P_2$	
Expert 3	$P_1 > P_2$	
Expert 4	$P_1 > P_2$	
Criterion 2, increase in investment flows P_1, search for new suppliers of raw materials P_2, introduction of an additional quality control system		
Expert 1	$P_1 > P_2$	$P_1 = 2 + 2 + 1 + 1 = 6$ $P_2 = 1 + 1 + 2 + 2 = 6$ $V_1 = 6/12 = 0.5$ $V_2 = 6/12 = 0.5$
Expert 2	$P_1 > P_2$	
Expert 3	$P_2 > P_1$	
Expert 4	$P_2 > P_1$	
Criterion 2, increase in investment flows P_1, purchase of new equipment P_2, change in the chemical composition of products		

Table D.5 (the end)

1	2	3
Expert 1	$P_1 > P_2$	$P_1 = 2 + 1 + 2 + 2 = 7$ $P_2 = 1 + 2 + 1 + 1 = 5$ $V_1 = 5/12 = 0.58$ $V_2 = 7/12 = 0.42$
Expert 2	$P_2 > P_1$	
Expert 3	$P_1 > P_2$	
Expert 4	$P_1 > P_2$	
Criterion 2, increase in investment flows P_1, participation in exhibitions, fairs, seminars P_2, implementation of a flexible system of discounts		
Expert 1	$P_2 > P_1$	$P_1 = 1 + 1 + 2 + 2 = 6$ $P_2 = 2 + 2 + 1 + 1 = 6$ $V_1 = 5/12 = 0.5$ $V_2 = 7/12 = 0.5$
Expert 2	$P_2 > P_1$	
Expert 3	$P_1 > P_2$	
Expert 4	$P_1 > P_2$	
Criterion 2, increase in investment flows P_1, entry into the markets of Central Asia P_2, conclusion of long-term contracts		
Expert 1	$P_2 > P_1$	$P_1 = 1 + 1 + 2 + 1 = 5$ $P_2 = 2 + 2 + 1 + 2 = 7$ $V_1 = 5/12 = 0.42$ $V_2 = 7/12 = 0.58$
Expert 2	$P_2 > P_1$	
Expert 3	$P_1 > P_2$	
Expert 4	$P_2 > P_1$	

The obtained results and the calculation of the correlation coefficient are presented in Table D.6.

Table D.6

Expert evaluations at the first level of the hierarchy

Criteria	Expert evaluations								
	W	V							
		Search for new suppliers of raw materials	Introduction of an additional quality control system	Purchase of new equipment	Changing the chemical composition of products	Participation in exhibitions, fairs, seminars	Implementation of a flexible system of discounts	Access to the markets of Central Asia	Conclusion of long-term contracts
Increase in net profit	0.58	0.42	0.58	0.5	0.5	0.33	0.67	0.67	0.33
Increase in investment flows	0.42	0.5	0.5	0.58	0.42	0.5	0.5	0.42	0.58
Task correlation coefficient (r_{ij})		0.45	0.55	0.53	0.47	0.4	0.6	0.57	0.43

The calculation of the generalized coefficients of the connection of tasks is carried out according to formula (D.3):

$$C_{ij} = P_i^{G-1} C_{ij}, \quad \text{(D.3)}$$

where C_{ij} is the overall connection coefficient for the j-th task on the i-th level;

G is the number of levels of the goal tree hierarchy;

P_i is the connection coefficient for the j-th task, which lies on the i-th level.

As a result of the calculations, a tree of goals with the following task connection coefficients is presented in Fig. D.2.

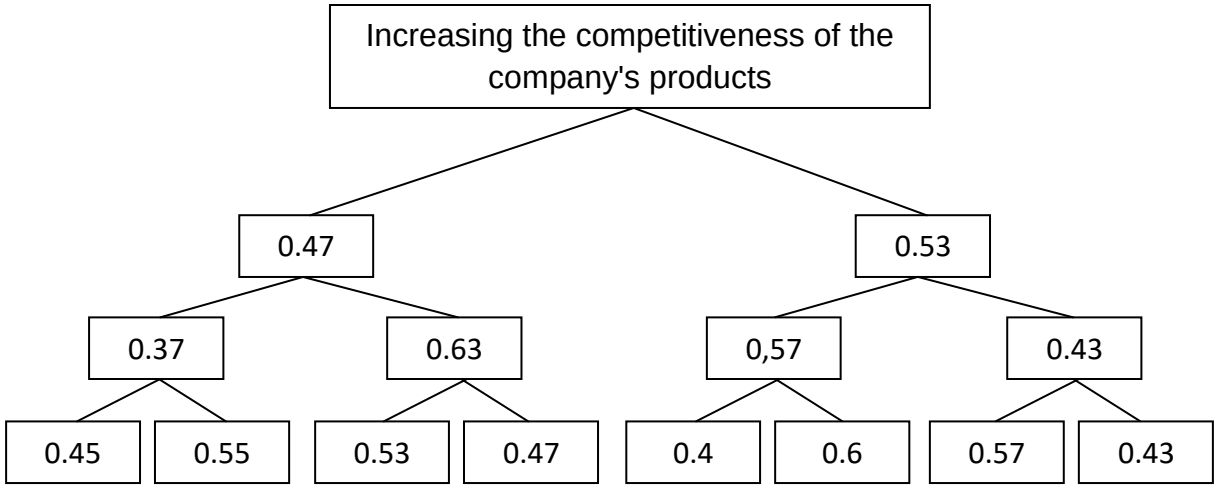

Fig. D.2. **A tree of goals with connection coefficients**

R_{111} = 0.45 × 0.37 × 0.47 = 0.078.
R_{112} = 0.55 × 0.37 × 0.47 = 0.096.
R_{121} = 0.53 × 0.63 × 0.47 = 0.157.
R_{122} = 0.47 × 0.63 × 0.47 = 0.139.
R_{211} = 0.4 × 0.57 × 0.53 = 0.121.
R_{212} = 0.6 × 0.57 × 0.53 = 0.181.
R_{221} = 0.57 × 0.43 × 0.53 = 0.13.
R_{222} = 0.43 × 0.43 × 0.53 = 0.098.

With calculations, it can be concluded that the implementation of a flexible system of discounts is the best way to increase the competitiveness of products for a company producing glass products. An equally important technological measure, namely the purchase of new equipment should also be noted.

Appendix E

Business model Canvas

Table E.1

Business Model Canvas (a fillable template)

Name of the project:	Date:

<table>
<tr><td>Key partners</td><td>Key activities</td><td>A value proposition</td><td>Customer relations</td><td>Consumer segments</td></tr>
<tr><td rowspan="3">Potential and existing partners. Which organizations, individuals are ready to influence positively or are already involved in work on the project?</td><td>Key activities
Do they require our value propositions?
What are our sales channels?
What customer relations do we have?
What are income streams?</td><td rowspan="3">What value do we provide to the client?
Which of our clients' problems do we help solve?
What sets of products and services do we offer each customer segment ?
What customer needs do we satisfy?</td><td>How will we attract and keep customers, form their loyalty?</td><td rowspan="3">For whom do we create value?
Who are our most important consumers, target segments?</td></tr>
<tr><td>Key resources</td><td>Channels</td></tr>
<tr><td>What is needed for successful functioning of the business model? What finances, personnel , materials, equipment, raw materials, knowledge do we need?</td><td>How will consumers learn about us (communication) and how will we deliver products (distribution)?</td></tr>
<tr><td colspan="2">Cost structure</td><td colspan="3">Income streams</td></tr>
<tr><td colspan="2">What actions, activities, events, purchases will the funds be spent on, what amount is needed for the work of the project, the launch of a startup, etc.?</td><td colspan="3">What value are our customers really willing to pay for?
What are they paying for now?
How do they pay now?
How would they like to pay?
What is the contribution of each income stream to total income?</td></tr>
</table>

Appendix F

An example of building a matrix of distribution of functions between project participants

Construction of a matrix of the distribution of functions between the project participants regarding the development of a strategy for increasing the competitiveness of the products of the enterprise for the production of glass products.

Table F.1

The matrix of the distribution of functions between the project participants regarding the development of a strategy for increasing the competitiveness of the products of the enterprise for the production of glass products

Task name	Head of the sales department	Head of the quality department	Analyst	Marketer
1	2	3	4	5
1. Formation of the project concept and idea	x			
1.1. Study of the technical aspect		x	○	
1.2. Research of the economic aspect	○		x	
1.3. Study of the ecological aspect		x		
1.4. Market research	○			x
1.5. Consumer research	○			x
1.6. Competitor research	○			x
1.7. Study of sales channels	x			○
1.8. Research suppliers	x			○
2. Audit of competitive strategy	x		○	○
2.1. Defining strategy goals	x	○		
2.2. Definition of strategy tasks	x	○		
2.3. Determination of the strategy of product competitiveness	x	○		
3. Audit of the production organization		x	○	

Appendix F (the end)

Table F.1 (the end)

1	2	3	4	5
3.1. Technological process research		x		
3.2 Introduction of new equipment		x		
3.3. Study of the efficiency of the production process		x	○	
4. Audit of the marketing organization				x
4.1. Study of functional efficiency				x
4.2. Information system research				x
4.3. Study of the marketing planning and control system				x
5. Analysis of the effectiveness of the existing strategy	○		x	
5.1. Profitability analysis			x	
5.2. Cost analysis			x	
6. Development of proposals for improving the strategy of increasing competitiveness	x	○	○	○
6.1. Implementation of a system of discounts for buyers	x		○	○
6.2. Informing consumers about changes in product quality				x
6.3. Checking the effectiveness of offers	○		x	
6.4. Preparation of product sales plan	○			x
6.5. Plan execution control	x			

Note:

x – must carry out;

○ – can carry out.

Appendix G

Linguistic features of the scientific style

Scientific style is a functional style of the modern language that serves science, technology, and production.

The main linguistic means of the scientific style are a large number of terms, schemes, tables, graphs, abstract (often foreign) words, scientific phraseology (set terminological phrases), quotations, references; absence of emotionally expressive synonyms, suffixes, ambiguous words, artistic tropes, individual neologisms.

Characteristic features of the scientific style are presented in Table G.1.

Table G.1

Characteristic features of the scientific style

Subdivisions of literary language	Basic language tools in a scientific style
1	2
Vocabulary and phraseology	Words in scientific works are used in their direct meanings, there are few synonyms in scientific works. Comparisons predominate among figurative means. They help to form a comprehensive picture of the subject of research. Most of the information is presented using scientific and special terms. Words and set phrases are used, which help to consistently and logically connect separate elements of the scientific text, for example, such set phrases as: to present the results, as the analysis showed, on the basis of the data obtained, summarizing what was said, it follows that, such manner, however, in addition to this, on the other hand, in turn, in this case, firstly, secondly, thirdly, etc., described above, the results are presented, based on the received data, as shown by the research. It is especially necessary to highlight the words that indicate the degree of probability (really, clearly, probably), the objectivity of the given information (they think, believe, claim, it seems, maybe). These linguistic patterns will give the expression a relative character. But absolute statements require the highest degree of responsibility from the author

Appendix G (the end)

Table G.1 (the end)

1	2
Morphology	In the texts of scientific works using qualitative adjectives, preference is given to analytical (compound) forms of degrees of comparison (to maintain the same style of speech), using the words "most", "least". Numerals are mostly in written numbers rather than words. An exception is made only for numerals in the text of the oral report, when they are written in words to emphasize fractional parts and units (one point five, two million three hundred forty three thousand five hundred eighty one). Verbs and verb forms carry a special information load in the text of scientific works. Reflexive verbs, passive constructions are often used, which is due to the need to emphasize the object of action, the subject of research. Pronouns that belong to the class of demonstratives (this, that, such, which) are especially common. They do not only specify the subject, but also determine the logical connections between the parts of the statement. Instead of the pronoun "we" it is recommended to use the third person singular ("The author believes ..."), impersonal forms ("The analysis was carried out ...", "directions were determined ...", "the method was used")
Syntax	An important feature of the syntax of the scientific language is the inclination towards elaborate complex sentences with a branched system of various types of subordination, separated turns (especially adverbial). A large specific weight belongs to complex sentences, in particular with causal and consequential relations. Such sentences most closely correspond to the specifics of a scientific presentation

Appendix H

Examples of design of the list of the used sources in a course work
(taking into account the National Standard of Ukraine DSTU 8302:2015)

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Contents

НАВЧАЛЬНЕ ВИДАННЯ

УПРАВЛІННЯ ПРОЄКТАМИ

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(англ. мовою)

Самостійне електронне текстове мережеве видання

Укладачі: **Власенко** Тетяна Анатоліївна
Котельникова Юлія Миколаївна
Мосумова Айнура Кярам кизи

Відповідальний за видання *Т. А. Власенко*

Редактор *З. В. Зобова*

Коректор *З. В. Зобова*

Розглянуто порядок написання, оформлення та захисту курсової роботи. Наведено орієнтовний перелік тем, що пропонують до розгляду, вимоги до структури, обсягу, змісту та оформлення курсової роботи, а також приклади оформлення її основних структурних елементів.

Рекомендовано для здобувачів вищої освіти спеціальності 051 "Економіка" освітньої програми "Економіка бізнесу" другого (магістерського) рівня.

План 2025 р. Поз. № 26 ЕВ. Обсяг 46 с.

Видавець і виготовлювач – ХНЕУ ім. С. Кузнеця, 61165, м. Харків, просп. Науки, 9-А

Свідоцтво про внесення суб'єкта видавничої справи до Державного реєстру
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