

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCES  
OF UKRAINE**

**Faculty of Agrarian Management**

**METHODICAL INSTRUCTIONS**

**for preparing Term Papers**

**in “Operational Management”**

**(mandatory component of Educational Program 073 “Management”)**

for students of specialty 073 "Management"

educational degree "Bachelor"

**Kyiv – 2023**

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METHODICAL INSTRUCTIONS FOR PREPARING TERM PAPERS IN THE  
COURSE “OPERATIONAL MANAGEMENT” (MANDATORY COMPONENT OF  
EDUCATIONAL PROGRAM 073 “MANAGEMENT”)

for students of specialty 073 "Management"

educational degree "Bachelor"

## CONTENT

<b>CONTENT</b>	<b>2</b>
<b>INTRODUCTION TO THE TERM PAPER PREPARATION</b>	<b>4</b>
<b><i>II. PURPOSE AND TASKS OF IMPLEMENTATION OF THE TERM PAPER IN THE DISCIPLINE "OPERATIONAL MANAGEMENT"</i></b>	<b>7</b>
<b><i>III. TOPICS OF TERM PAPERS IN THE DISCIPLINE "OPERATIONAL MANAGEMENT"</i></b>	<b>8</b>
<b><i>IV. ORGANIZATION OF THE TERM PAPER WRITING PROCESS</i></b>	<b>9</b>
<b><i>V. CONTENT OF THE TERM PAPER</i></b>	<b>10</b>
<b><i>VI. REQUIREMENTS FOR THE DESIGN OF A TERM PAPER</i></b>	<b>11</b>
<b><i>VII. EXAMPLES OF BIBLIOGRAPHICAL DESCRIPTIONS</i></b>	<b>14</b>
<b><i>VIII. PROCEDURE FOR DEFENSE OF TERM PAPER, EVALUATION CRITERIA</i></b>	<b>21</b>
<b><i>TOPICS OF TERM PAPERS IN THE DISCIPLINE "OPERATIONAL MANAGEMENT"</i></b>	<b>24</b>
<b><i>GLOSSARY</i></b>	<b>26</b>
<b><i>Recommended sources of information</i></b>	<b>45</b>
<b>APPENDIX A</b>	<b>47</b>
<b>APPENDIX B</b>	<b>48</b>

## *I. INTRODUCTION TO THE TERM PAPER PREPARATION*

For effective management of business entities theoretical training and acquisition of practical skills in operational management is crucial. Operational management is one of the basic functions of any enterprise.

An integral part of training specialists for the national economy of Ukraine is their mastering of a certain amount of economic knowledge on the problems of functioning and development of economic systems of various types. Among the disciplines that ensure the implementation of the latter is "Operational Management". An important form of independent work of students and a way to involve them in research work is the preparation and defense of term papers.

The implementation of the term paper contributes to a deeper understanding of students of the discipline "Operational Management", the formation of their skills and abilities to independently analyze socio-economic processes, formulate and argue the proposed provisions, make informed conclusions and recommendations.

**The purpose** of the course "Operational management" is to master a set of knowledge about production and its organization, operating systems and their operation; formation in the future managers' ability to develop operational strategy, create and use industry operating systems as a basis for ensuring the achievement of the organization's mission.

### **Objectives:**

- to study of theoretical and methodological bases, categorical apparatus operational management;
- to master the basic features, principles and methods of operations, operating systems of various types;
- to gain knowledge on the development of operational strategy of the enterprise;
- to possess skills to justify the decision to create an operating room systems, support of the proper mode of its functioning;
- to study the basics of quality management and assurance product competitiveness;

### **Acquisition of competencies:**

- **Integral (IC):** The ability to solve complex specialized tasks and practical problems in the management of organizations or in the learning process, which involves the application of certain theories and methods of the relevant science and is characterized by the complexity and uncertainty of conditions.

### **General competencies (GC):**

GC 3 Ability to abstract thinking, analysis, synthesis;

GC 4 Ability to apply knowledge in practical situations

GC 5 Knowledge and understanding of the subject area and understanding of professional activity.

GC 9 Ability to learn and master modern knowledge

GC 10 Ability to conduct research at an appropriate level.

GC 14 Ability to work in an international context.

GC 15 The ability to act on the basis of ethical considerations (motives).

### **Professional (special) competencies (SC):**

SC 1 The ability to define and describe the characteristics of the organization

SC 2 The ability to analyze the results of the organization's activities, to compare them with the factors of influence of the external and internal environment.

SC 3 The ability to determine the prospects for the organization's development.

SC 4 The ability to determine the functional areas of the organization and the connections between them.

SC 5 The ability to manage the organization and its divisions through the implementation of management functions

SC6 The ability to act socially responsibly and consciously

SC7 Ability to choose and use modern management tools

SC 9 Ability to work in a team and establish interpersonal interaction when solving professional tasks.

SC 12 Ability to analyze and structure organizational problems, form reasonable solutions

SC 14 Understand the principles of psychology and use them in professional activities

SC 15 Ability to form and demonstrate leadership qualities and behavioral skills.

SC 16 Ability to identify and analyze new market opportunities

opportunities, including an international business environment, formulate new ideas, develop projects and organize business process management

**Program learning outcomes (PLO):**

PLO 3 Demonstrate knowledge of theories, methods and functions of management, modern concepts of leadership.

PLO7 Demonstrate organizational projecting skills

PLO 8 Apply management methods to ensure the effectiveness of the organization

PLO 12 Assess the legal, social and economic consequences of the organization's functioning

PLO17 Conduct research individually and/or in a group under the guidance of a leader

PLO 18 Demonstrate the ability to identify prospects for the development of the enterprise, develop projects, organize management of business processes based on analysis market opportunities and international business environment

The term paper is an independent, performed under the guidance of a teacher research on one of the relevant issues of management. Execution of term paper is one of the types of educational and research work of students, designed to certify the level of knowledge acquired by students and the ability to use them in the development of theoretical and specific practical issues in the field of management.

Execution of the term paper *aims to* consolidate and deepen the knowledge acquired by students in the process of studying the disciplines of management and administration; to develop students' skills of independent work with special literature, reference books, manuals, sources of statistical information, etc.; to teach students to generalize theoretical materials, to interpret the collected data, to independently

formulate conclusions, to substantiate and defend their own point of view on the researched problems.

When performing term paper on operational management, students are given the following *tasks*:

- to study the literature, regulations, reference, scientific, statistical sources on the selected topic;
- to provide independent analysis of the main concepts, provisions on the research topic, put forward by domestic and foreign scientists;
- to prepare a clear, consistent presentation of their views in the analysis of economic and management problems, the ability to apply the knowledge gained in the classroom, to connect them with practice;
- to obtain the consolidation and deepening of students' knowledge of management.

Thus, the implementation of the course work gives students the opportunity to expand and deepen their knowledge, gain the necessary experience of independent theoretical research.

## *II. PURPOSE AND TASKS OF IMPLEMENTATION OF THE TERM PAPER IN THE DISCIPLINE "OPERATIONAL MANAGEMENT"*

Term paper in the discipline "Operational Management" is independent work of a student majoring in 073 "Management" in accordance with the curriculum. This project is a summary of the study of the discipline and in-depth study of one of the pressing problems of operational management of agricultural enterprises.

The *purpose* of the term paper is to consolidate theoretical knowledge of operational management, acquired skills and abilities for self-study of literature sources, statistical materials, research of the peculiarities of the emergence and development of the crisis in enterprises, the experience of overcoming it.

The main *tasks* of writing and defending a term paper are:

- to study the theoretical and methodological principles on the chosen research topic;
- to study of the impact of exogenous and endogenous factors on the emergence and development of the operational management at the enterprise;
- to conduct a comprehensive diagnosis of operational strategy of enterprises;
- to develop proposals to improve the operational system of the enterprise;
- to prepare a presentation as a personification of the main content of the course project and the author's proposals for further public defense.

## *III. TOPICS OF TERM PAPERS IN THE DISCIPLINE "OPERATIONAL MANAGEMENT"*

The topics of course projects in the discipline "Operational Management" are developed and reviewed annually in accordance with the new trends in the operational management.

A student has the right to independently choose the topic of work. At the request of the student and in accordance with the operational management phenomena that are



characteristic of the enterprise-base of writing a term paper the topic can be adjusted or clarified.

The choice of the topic should be formed taking into account its relevance for the enterprise, on the basis of which the project is planned, the possibility of obtaining reliable information on the current state and the formation of proposals for operational management.

#### *IV. ORGANIZATION OF THE TERM PAPER WRITING PROCESS*

##### 1. The sequence of implementation

The implementation process involves the following stages:

- choice of the topic of the term paper, coordination with the head;
- selection of theoretical material and statistical data on selected topics;
- registration of the task for the term paper;
- coordination of the project implementation schedule with the manager of the enterprise where the course work can be implemented;
- acquaintance with requirements concerning registration of the term paper;
- review of literary sources on selected topics;
- writing the work in accordance with current standards, requirements of methodological recommendations and in accordance with the implementation plan;
- registration of term paper and its handing in to the department;
- receiving feedback from the head;
- preparation of the presentation and defense of the course project.

##### 2. Choosing a term paper topic

From the list of topics proposed by the department the student chooses the most relevant, given the company on the basis of which the project is planned.

The student has the right to offer his/her topic, but in case if it corresponds to the discipline "Operational Management" and specialty 073 "Management".

### 3. Responsibilities of the term paper supervisor:

The term paper supervisor is obliged to:

- agree with the student on his chosen topic;
- to help the student in writing the content of the term paper;
- develop together with the student and approve the work schedule;
- provide recommendations on literature sources, reference materials, necessary statistical information, enterprise reporting, etc.;
- systematically advise the student and check the implementation of the structural components of the project;
- to carry out the general check of the term paper;
- write a review of the head of the term paper;
- prepare the student for defense;
- organize and defend the term paper.

### 4. Information base for the term paper

The selection of literature for the work should begin with the sources recommended by the lecturer in the study of the discipline and proposed in the guidelines.

The student will be able to use laws and regulations, reports, statistical materials of industry associations, research enterprises, textbooks and manuals, monographs, scientific publications in periodicals.

## *V. CONTENT OF THE TERM PAPER*

The term paper, regardless of the chosen topic, must contain:

- title page;
- content;
- introduction;
- the main part (three sections);

- conclusions and suggestions;
- list of used sources;
- applications.

## *VI. REQUIREMENTS FOR THE DESIGN OF A TERM PAPER*

### 1. General requirements

The term paper is executed in one copy. The text is printed on one side of white A4 paper. Times New Roman font for Word text editor, size 14, normal, 1.5 spacing.

The volume of the term paper is within 40 pages of printed text taking into account the list of literature sources and Appendices.

Dimensions of the margins of the pages: top and bottom - 20 mm, right - 10 mm, left - 30 mm.

The paragraph indentation should be the same - 1.25-1.5 cm.

The language of writing the term paper is English, style scientific, clear without spelling and syntactic errors. The work must be built logically, performed spelling, syntactically and punctuation competently.

The text of the main part of the term paper is divided into sections and subsections.

The introduction, each section, conclusions and list of references begin on a new page. Subdivisions are printed sequentially. Sections and subsections are numbered in Arabic numerals and printed in paragraph indents. The section number includes the section number and its serial number, separated by a dot (1.2, 2.4 ...).

The headings of the main parts "TABLE OF CONTENTS", "INTRODUCTION", "SECTION ...", "CONCLUSIONS", "RECOMMENDED LITERATURE", "APPENDICES" are printed in large bold letters and placed in the middle of the text, the headings of and placed with a paragraph indent. No full stop is added at the end of section and subsection names.

### 2. Tables

Tables are a convenient and informative form of submitting digital material.

The tables are placed after the first mention in the text or on the next page. The name is printed in small bold (except for the first capital) letters and placed above the table symmetrically to the text, and above the name in the right corner write the word table with the number (written in italics).

Example of table design (Table 3.5.)

*Table 3.5*

**The impact of the proposed measures on key performance indicators of the enterprise**

<b>N</b>	<b>Indices</b>	<b>Measures</b>	<b>Basic year</b>	<b>Project year</b>	<b>Deviation</b>

*Source:* created by the author on the basis of [5].

In that case, if the table summarizes the statistics or views of scientists on a particular problem, the link indicates the literature source and page: [7, p. 12].

Column numbering is performed when the table needs to be moved to the next page. If the continuation of the table is transferred to the next page, the name is not transferred, and in the right corner print the words "Continuation of the table ..." and put its number, the first row in the extended table are the column numbers. The units of measurement must be indicated in the table. If all units are the same, they are placed in the table header after the name and written through a comma. Example,

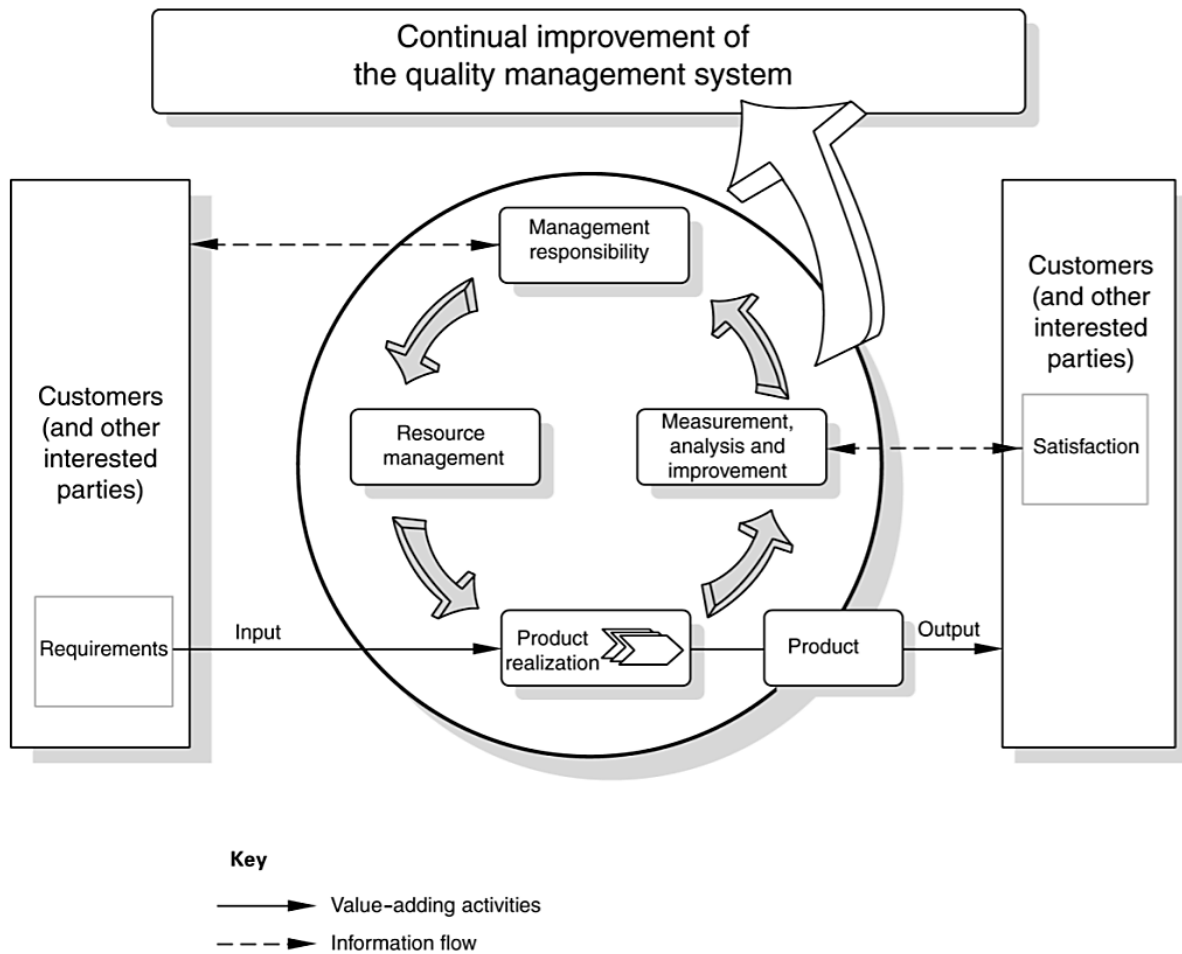
*Continuation of the table 3.5*

<b>N</b>	<b>Indices</b>	<b>Measures</b>	<b>Basic year</b>	<b>Project year</b>	<b>Deviation</b>

*Source:* created by the author on the basis of [5].

### 3. Illustrations

## Example



**Fig. 4. Process model of dairy production QMS**

*Source:* created by the author on the basis of [8].

Illustrations (figures, diagrams, charts, graphs, etc.) are placed immediately after the text where they are mentioned, or on the next page. The word "Fig.", Its number and name are given after the illustration. A full stop is not placed after the image title. All illustrations must be referenced in the text. If the illustration does not fit on one sheet, you can place it at the beginning of the next page. Figures are numbered sequentially within the section. The figure number includes the section number and its personal number through a period.

## 4. Formulas

Formulas are printed immediately after the text where they are mentioned, in the middle of the line. Above and below at least one free line is left. Formulas are

numbered in Arabic numerals, the number consists of a section number and the ordinal number of the formula, separated by a period. The number is placed in parentheses, on the right at the level of the formula. Explanations of the symbols included in the formula, if they are not explained in the text, are given directly below the formula, in the sequence in which they are given in the formula. An explanation of the meaning of each character is given on a new line. The first line begins without a paragraph with the word "where" without a colon. The formulas given one after another are separated by a comma. Formulas are printed in the Microsoft Equation editor.<sup>3</sup>

Example:

$$f_x = a \cdot b^e \quad (2.1)$$

where  $f_x$  is a function of .....

## 5. References

When writing a course project, the student must provide references to literary sources, the materials of which are given in the work. References are provided immediately after the end of the citation or author's definition in square brackets, indicating the serial number of the source in the bibliography and the corresponding page of the source. For example: [7, p. 25].

## VII. EXAMPLES OF BIBLIOGRAPHICAL DESCRIPTIONS

### FOR THE LIST OF LITERATURE LINKS

*(according to the DSTU 8302: 2015 "Information and documentation. Bibliographic link. General provisions and rules of compilation")*

Source characteristics	Example of formalizing
<b>DOCUMENTS</b>	
One author	Chepinoga V.G. Fundamentals of economic theory: textbook. Kyiv: Lira-K, 2017. 240 p.

	Konnov O.F. Historical dynamics of the artistic style: monograph. Kyiv: Publishing House of the National Pedagogical University named after M.P. Drahomanov. 2015. 187 p
Two authors	Zabrotsky M.M., Shaposhnikova Y. G. Pedagogical psychology. Lectures: textbook. Kherson, 2017. 144 p.
Three authors	Kryvovyazyuk I.V., Smerichevsky S.F., Kulyk Y. M. Risk management of the logistics system of machine-building enterprises: monograph. Kyiv: Condor, 2018. 200 p.
Four authors and more	The world of plants in the work of I.P. Kotlyarevsky: popular science essays Grinyova M.V. and others. Poltava, 2017. 112 p.  The world of plants in the work of I.P. Kotlyarevsky: popular science essays. Poltava, 2017. 112 p. or Hrynyova M. V., Onipko V. V., Kupriyan K. V., Khodunai V. V. The world of plants in the works of I. P. Kotlyarevskiy: popular science essays. Poltava, 2017. 112 p.
Multi-volume edition	Encyclopedia of the History of Ukraine: in 10 volumes. Editor: Smoliy V.A. and others. Kyiv, 2003–2013. T. 1–10.  Legal system of Ukraine: history, state and prospects: in 5 volumes / Acad. Of Law Sciences of Ukraine. Kharkiv: Pravo, 2009. Vol. 2: Constitutional principles of the legal system of Ukraine and problems of its improvement. General. ed. Bityak Yu. P.. 576 s.
Collective author	Management in the XXI century: methodology and practice: a collective monograph. Poltava National Technical University. Y. Kondratyuk. Poltava: Simon, 2015. 347 p.

<p>Editor, compiler</p>	<p>International economic relations: textbook. Edited by: S.O. Yakubovsky, Y.O. Nikolaev. Odessa: ONU, 2015. 306 p.</p> <p>Dakhno II, Alieva-Baranovska V.M. Intellectual property law: textbook. way. By ed. I.I. Dakhno. Kyiv: CUL, 2015. 560 p.</p> <p>Print of Ukraine. 2016: stat. yearbook. Compl. Buryak S.V.. Kyiv: Book Chamber of Ukraine, 2017. 100 p.</p>
<p>Abstracts, conference proceedings</p>	<p>Library local lore in the cultural space of Ukraine: collection of materials of All-Ukrainian scientific-practical conf., Kyiv, November 2. 2017. Kyiv: National Academy of Management of Culture and Arts, 2017. 246 p.</p> <p>Synanthropization of vegetation of Ukraine: theses of sciences. All-Ukrainian Science. conf., Pereyaslav-Khmelnysky, April 27-28. 2006. Pereyaslav-Khmelnysky, 2006. 240 p.</p>
<p>Collection</p>	<p>Ukraine - the constellation of cultures: a collection. Kyiv: Novy Druk, 2018. 244 p.</p> <p>Science of Ukraine in the world information space: a collection. Kyiv: Academic Periodicals. 2018. Ed. 15. 104 p.</p>
<p>Translation from another language</p>	<p>Garford, Tim. Things that changed the world. History of economics in 50 inventions: transl. from English Kyiv, 2018. 352 p.</p>
<p>Standards</p>	<p>DSTU 3582: 2013. Bibliographic description. Abbreviations of words and phrases in Ukrainian. General requirements and rules (ISO 4: 1984, NEQ; ISO 832: 1994, NEQ). [To replace DSTU3582-97; valid from 2013-08-22]. Offic. Kyiv: Ministry of Economic Development of Ukraine, 2014. 15 p. (Information and documentation).</p> <p>DSTU EN 61010-2-020: 2005. Safety requirements for electrical equipment for measurement, control and laboratory use. Part 2-020. Additional requirements</p>



	for laboratory centrifuges (EN 61010-2-020: 1994, IDT). Kyiv: Derzhspozhyvstandart of Ukraine, 2007. IV, 18 p.
Patents	<p>A method of treating attention deficit hyperactivity disorder in children: US Pat. 76509 Ukraine. № 2004042416; declared 01.04.2004; publ. 01.08.2006, Bull. № 8 (book 1). 120 p.</p> <p>Two-chamber jet-irrigation sulfitor: US Pat. 112332 Ukraine. № 201606608; declared 16.06.2016, Bull. № 23. 4 p.</p>
Archival documents	<p>Activities of the historical section at the Ukrainian Academy of Sciences and related historical institutions of the Academy in 1929–1930. Institute of Manuscripts of the V.I. Vernadsky National Library of Ukraine. F. X (All-Ukrainian Academy of Sciences). Ref. 1686. 30 p.</p> <p>Materials of the Council of People's Commissars of the Ukrainian People's Republic. Central State Archives of Ukraine (Central State Archive of Higher Authorities and Administration of Ukraine). F. 1061. Op. 1. Ref. 8–12. Copy; F. 1063. Op. 3. Ref. 1–3.</p>
Dissertations, dissertation abstracts	<p>Vinichenko O.M. System of dynamic control of social and economic development of the industrial enterprise: dis. ... Dr. Econ. Science: 08.00.04. Dnipro, 2017. 424 p.</p> <p>Ustyan O. Y. Client-oriented marketing of enterprises in the field of entertainment and recreation: author's ref. dis. ... cand. econ. Science: 08.00.04. Poltava, 2018. 20 p.</p>
Preprints	Panasyuk M.I., Skorbun A.D., Sploshnoy B.M. On the accuracy of determining the activity of solid radioactive waste by gamma methods. Chernobyl: Institute for AES Safety Problems of the National Academy of Sciences of Ukraine, 2006. 7, [1] p. (Preprint. NAS of Ukraine, Institute of AES Safety Problems; 06-1).

<b>PART OF DOCUMENTS</b>	
Part of the book	<p>Franko I. Stolen happiness. Writings. Kyiv, 1966. P. 322–419.</p> <p>Alekseiev V.M. Legal status of a person and its implementation in the relationship between the state and society in public administration in Ukraine. Theoretical principles of the relationship between the state and society in management: a monograph. Chernivtsi, 2012. P. 151–16</p>
Abstracts, conference proceedings	<p>Maistrenko V.M., Osadchuk O.P. Theoretical bases of quality management system implementation. Problems of management and economics of enterprises in modern conditions: materials of the XV International scientific-practical conf., Kyiv, April 23-24. 2019. Kyiv: NUHT, 2019. P. 18-21.</p> <p>Antsiperova I.I. Historical and legal aspects of the budget. Research of problems of law in Ukraine through the eyes of young scientists: thesis. All-Ukrainian scientific-practical conf., Zaporozhye, April 24. 2014. Zaporizhia, 2014. P. 134–137.</p>
Legislative and regulatory documents	<p>On plant protection: Law of Ukraine of October 14. 1998 № 180-XIV. Information of the Verkhovna Rada of Ukraine. 1998. № 50/51. P. 914-924.</p> <p>Instruction on the procedure for accrual and payment of a single contribution to the obligatory state social insurance: approved by order of the Ministry of Finance of Ukraine dated April 20. 2015 № 449. All about accounting. 2015. № 51. P. 21–42.</p> <p>About the statement of Requirements to registration of the dissertation: the order of the Ministry of Education and Science from January 12. 2017 № 40. Official Gazette of Ukraine. 2017. № 20. P. 136–141.</p> <p>Instruction on the procedure for accrual and payment of a single contribution to the obligatory state social insurance: approved by order of the Ministry of</p>

	Finance of Ukraine dated April 20. 2015 № 449. All about accounting. 2015. № 51. P. 21–42.
Articles from periodicals	<p>Murashko I.S. Bionomic approach to sustainable development of the enterprise. Bulletin of Zaporizhia National University. Economic Sciences Series. 2017. № 4. P. 43–49.</p> <p>Blyzniuk O.P., Stavarska T.O., Ivanyuta O.M. Formation of credit and monetary mechanism for sustainable development of trade enterprises of Ukraine. Business Inform. 2019. № 7. P. 240–249.</p>
<b>ELECTRONIC SOURCES</b>	
Books	Academic honesty as a basis for sustainable development of the university. By general. ed. Finikov T.V., Artyukhov A.E.. Kyiv: Tucson, 2016. 234 p. URL: <a href="http://www.univer.kharkov.ua/images/redactor/news/2016-09-07/chesnist_osnova_rozvitk_Univers.pdf">http://www.univer.kharkov.ua/images/redactor/news/2016-09-07/chesnist_osnova_rozvitk_Univers.pdf</a> (access date: 02.11.2017).
Articles from periodicals	<p>Kostyuchenko Y. M. Dispute Resolution Mechanisms in the Association Agreement between Ukraine and the EU. Scientific Bulletin of Uzhhorod National University. Series: Right. 2019. Vip. 56, v. 2. pp. 144-147. URL: <a href="http://www.visnyk-juris.uzhnu.uz.ua/file/No.56/part_2/31.pdf">http://www.visnyk-juris.uzhnu.uz.ua/file/No.56/part_2/31.pdf</a> (access date: 23.08.2019).</p> <p>Miroshnychenko O. Y., Karyuk V.I. Stages of formation of organizational and economic mechanism of innovative activity of enterprises. Efficient economy. 2012. № 2. URL: <a href="http://www.economy.nayka.com.ua/?op=1&amp;z=932">http://www.economy.nayka.com.ua/?op=1&amp;z=932</a> (access date: 22.01.2018).</p>
Legislative documents	<p>On standardization: Law of Ukraine of February 11. 2014 № 1315. URL: <a href="https://zakon.rada.gov.ua/laws/show/1315-18">https://zakon.rada.gov.ua/laws/show/1315-18</a> (access date: 02.09.2019).</p> <p>About the statement of the Order of use of documents through exchange library funds: the order of the Ministry of Culture of Ukraine from October 31. 2017 № 1131. URL: <a href="https://zakon3.rada.gov.ua/laws/show/z1583-17">https://zakon3.rada.gov.ua/laws/show/z1583-17</a> (access date: 02.08.2019).</p>

Website pages	<p>Organic farming and its development in Ukraine. Agronews: web-site. URL: <a href="https://agronews.ua/node/24264">https://agronews.ua/node/24264</a> (access date: 02.09.2019).</p> <p>Beautiful and amazing Poltava. My planet: website. URL: <a href="http://myplanet.com.ua/?p=10440">http://myplanet.com.ua/?p=10440</a> (access date: 10.09.2019).</p> <p>Chaika AS Inclusive education - a way to full socialization of students with special educational needs. Education: website. URL: <a href="https://vseosvita.ua/library/inkluzivna-osvita-slah-do-povnocinnoi-socializacii-ucniv-z-oo-1906.html">https://vseosvita.ua/library/inkluzivna-osvita-slah-do-povnocinnoi-socializacii-ucniv-z-oo-1906.html</a> (access date: 12.08.2019).</p>
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## 6. List of used literature sources

Sources can be placed:

- in the order of appearance of links in the text;
- in alphabetical order of authors' surnames or titles (four or more authors).

Information on the sources used must be provided in accordance with the requirements.

## 7. Appendices

Appendices are placed after the conclusions in the order of references to them in the text of the work. Appendices are denoted by capital letters of the English alphabet starting with A.

Each appendix starts on a new page with the Appendix A in the upper right corner of the page.

The application must have a title that is printed symmetrically to the capitalized text.

## 8. Page numbering

All pages of the term paper, except for appendices, are numbered starting from the title page. The first page of the work is the title, but the number is not affixed to it, then the pages are numbered sequentially with the number.

The serial number of pages is placed on the right edge at the top of the field.

**VIII. PROCEDURE FOR DEFENSE OF TERM PAPER,  
EVALUATION CRITERIA**

Student defense of the course project is public.

Students who have completed a course project in accordance with the above requirements and in accordance with the writing schedule are allowed to defend.

The defense procedure involves a brief presentation of the students ' research results and suggestions for solving problems, answers to questions from the supervisor and those present.

In case of unsatisfactory defense, the decision on re-defense of the course project by the student, provided the possibility of completion, is made by the head, if necessary, to develop a new topic at a meeting of the department.

The general assessment of the level of knowledge, skills and abilities of students in the discipline on the ECTS scale and the national scale is set basing on the number of points obtained by the results of the module control and scores obtained in the test, according to the table.

The supervisor evaluates the implementation of the course project according to the following criteria:

- project writing;
- report;
- answers to questions.

*Table 1.*

**Rating: national and the ECTS**

<b>Sum of points</b>	<b>National grade</b>
	<i>Course project</i>
90 – 100	excellent
82-89	good
74-81	

64-73	satisfactory
60-63	
35-59	Unsatisfactory with the possibility to pass
0-34	Unsatisfactory without the possibility to pass

The general final assessment of the course project is derived on the basis of the following components:

90-100 points - "excellent";

75-89 points - "good";

60-74 points - "satisfactory";

59 points or less - "unsatisfactory".

*Table 2.*

### **Criteria for evaluating the success of the term paper**

<b>Number of points</b>	<b>Mark</b>	<b>Evaluation criteria</b>
<b>Evaluation of term paper writing</b>		
54-60	excellent	The content of the work fully corresponds to the task, the relevance of the work is proven, the tasks are solved completely, the goal is achieved, the proposals are specific and justified by calculations, the work is written competently and on time, designed in accordance with the requirements
45-53	good	The content of the work fully corresponds to the task, the relevance of the work is proved, the tasks are solved completely, the goal is achieved, the proposals are specific and justified by calculations, the work is written

		with some errors or non-compliance with the schedule, there are comments
36-44	satisfactory	The content of the work mainly corresponds to the task, the relevance of the work is proved, the tasks are not completely solved, the proposals are insufficiently substantiated, the work is written with errors or non-compliance with the schedule, there are comments on the design
1-35	unsatisfactory	The content of the work does not correspond to the task, gross mistakes were made
<b>Evaluation of the report on defense</b>		
18-20	excellent	The report is logically constructed, thesis with a statement of the results, argumentation of proposals, conclusions
15-17	good	The report contains minor errors
12-14	satisfactory	The report contains errors that do not fully reflect the results of the work
1-11	unsatisfactory	The report does not contain the main idea
<b>Evaluation the answer to the question</b>		
18-20	excellent	At least 60% of the answers are rated "excellent", 30% - "good", 10% - "satisfactory".
15-17	good	At least 50% of the answers are rated "excellent" and "good", the rest - "satisfactory".
12-14	satisfactory	At least 60% of the answers were positive
1-11	unsatisfactory	More than 40% of responses were rated "unsatisfactory"

*TOPICS OF TERM PAPERS IN THE DISCIPLINE**"OPERATIONAL MANAGEMENT"*

1. Formation of operational strategy.
2. Management of the organization's competitiveness.
3. Management of production facilities at the enterprise.
4. Operational management and dispatching of production.
5. Management of the operational control system at the enterprise.
6. Organization productivity management.
7. Project management.
8. Procurement management. Procurement "Exactly and on time".
9. Management of material and technical support.
10. Supply chain management.
11. Inventory management.
12. Management of marketing and sales activities.
13. Product quality management.
14. Production system "Exactly and on time".
15. Placement of production and service facilities.
16. Statistical methods of quality management.
17. Strategic capacity planning.
18. Operational strategy and competitiveness.
19. Queue management. Mass service system.
20. Models in production management.
21. Service design and service process selection.
22. Linear programming in production management.
23. Location of equipment and layout of premises.
24. Demand and its forecasting.
25. Technical and service maintenance.
26. Calendar production planning.
27. Total quality management and quality certification.
28. Productivity and quality of services.



29. Management of the personnel potential of the organization.
30. Improvement of the corporate management system at the enterprise.
31. Improvement of the planning and forecasting system at the enterprise

## ***GLOSSARY***

**ABC analysis** is a widely used method in the practice of inventory management, which involves the division of material resources into categories A, B and C. ABC analysis emphasizes that there is a critical minority (category A) and a trivial majority (categories B and C) of positions material and resource resources to which different management policies should be applied; the main focus should be on a critical minority of positions.

**Aggregate planning** is the process of forming a resource-balanced production program of the enterprise and its distribution by individual calendar periods and by individual structural units of the operating system.

An enterprise is an independent business entity established by a competent state authority or local self-government body, or other entities to meet public and personal needs through the systematic implementation of production, research, trade and other economic activities.

**Areas of operational management** are management of stable operation of the operational system and management of its creation, transformation and development.

**Calendar-planning standards** are tools for interconnection of calendar plans, coordination of work of interconnected workplaces, sections and divisions, as well as ensuring efficient use of equipment and personnel. The main calendar and planning standards are: the size and rhythm of batches of parts, assembly units and products, the duration of production cycles; anticipation of the launch and release of batches of parts and assembly units; reserves and standards of work in progress.

**Cause-and-effect diagram** is a tool that allows you to identify the most significant factors that affect the end result. It is usually used to analyze the defects that lead to the greatest losses. At the same time it is possible to analyze the four main causal factors: personnel, machine (equipment), material and method of work. Based on this, such a diagram is sometimes called a diagram of "four M" (*man, method, material, machine*).

**Certificate of quality system** is a document issued to the company by the certification body of quality systems and certifies compliance with the requirements of the regulatory document (standard), as well as confirms the ability of the company to ensure and maintain the quality of its products at the appropriate level.

**Checklist** is a tool for collecting data and automatically organizing them to facilitate further use and processing of collected information.

**Competitiveness of the enterprise** is the potential or realized ability of the economic entity to effectively operate for a long time in a relevant environment. Competitiveness is based on the competitive advantages of the enterprise, determines its ability to withstand competition in a particular market, reflects the position of the enterprise relative to its competitors.

**Comprehensive quality management system (TQM-system)** - in the broadest sense - is a management approach focused on achieving long-term success by the company through the fullest satisfaction of customer requests. The ideology of TQM is based on the principle of continuous quality improvement. In a narrow sense, it is a comprehensive system focused on continuous improvement and improvement of quality, minimization of production costs and delivery on time. The TQM system provides for the general, purposeful and well-coordinated application of quality management systems and methods in all areas of activity - from research to after-sales service - with the participation of management and employees at all levels and in the rational use of technical capabilities.

**Control card** is a tool that allows you to track the nature of the process and influence it, preventing it from deviating from the requirements of the process standard. This is a kind of graph, which differs in the presence of control limits, which mean the allowable range of scatter of characteristics in stable conditions of the process.

**Costs for ordering and execution** are costs associated with the organization of the order and its implementation. They include costs of forming a supply network; costs of evaluation and selection of a specific supplier; transport, entertainment,

postage; travel expenses, etc.; the cost of registration and execution of the order does not depend on its size.

**Craft strategy** is a strategy on the basis of which production is built, in which workers-universals manually or using simple, multifunctional tools produce small batches (units) of products in accordance with individual customer requirements.

**Critical resource** means resources, the availability, quality and efficiency of which are vital for the successful implementation of operational activities and the functioning of the organization as a whole.

**Current stocks** are stocks of inventory ensuring the continuity of supply of the production process between two regular deliveries. The main purpose of creating such stocks is to eliminate the need for hourly deliveries and ensure the continuity of operating activities.

**Deming Cycle (DC)** is a modern methodology of improvement, which is based on the consistent implementation of 4 functions: planning, execution, verification, corrective action, through the implementation of which the impact of the quality system on the production process is provided. It is based on the assumption that improvement is the result of the application of knowledge accumulation.

**Dispatching** is the process of continuous monitoring and operational regulation of production in order to ensure the implementation of the plan in accordance with the established calendar schedule.

**Effectiveness** is the total result of the system and the accumulated potential for further development. Performance is a multicriteria value; its main criteria are: efficiency, profitability, efficiency, productivity, quality, innovation, quality of working life, market position of the enterprise.

**Environmental Management System (EMS)** is a system based on the group of ISO 14000 standards which unlike many other environmental standards are not focused on quantitative parameters (emissions, concentration of matter) and not on technology, and the formation of satisfactory environmental behavior at three levels: organizational - through improving the environmental "behavior" of corporations;

national - through the creation of a significant addition to the national regulatory framework; as a component of state environmental policy.

**External environment of the operational system** is a set of variables that are outside the operational system; it consists of the immediate environment of the operational system, which is formed by other systems of the organization (financial, marketing, etc.), and the external environment of the organization.

**Firm** is a general term for any commercial enterprise, i.e. an enterprise established for profit.

**Flow production** means production characterized by the following features: a group of jobs is assigned to the processing or assembly of a product of one name or a limited number of product names that are related in structural and technological terms; jobs are located in accordance with the technological process; the technological process of manufacturing products is divided into operations; one or a limited number of related operations are performed at each workplace; items are transferred from transaction to operation piecemeal or in small transfer batches.

**Functions of operational management** are separate from each other, relatively independent types of management activities. The main functions of operational management are goal setting, planning, organizing and coordinating, motivating, controlling and regulating.

**G. Taguti's methods** are a set of approaches to quality management aimed at implementing the idea of quality improvement in the case of product planning taking into account variations and uncertainties.

**Gantt chart (Gantt chart, bar chart)** is a graphical representation of the plan of a certain set of works during a specific period; variety of bar charts. It represents the segments located on a horizontal time scale; each of the segments corresponds to a separate work (task). The tasks that form the plan are placed vertically; the beginning, the end and length of a segment on a time scale correspond to the beginning, the end and duration of work. Gantt chart is used to plan work complexes, present the current state of work, control the production process.

Going beyond the **control limits** means a violation of the stability of the process and requires analysis of the causes and taking appropriate measures.

**Guarantee stocks (insurance, reserve)** are stocks of inventory designed to ensure the continuity of the production process in case of unforeseen circumstances: deviations in the frequency and volume of actual batches of supplies from the contract, changes in consumption, delays in delivery, etc.

**Histogram** is a tool that is a bar graph and allows you to visually estimate the law of distribution of statistics. It is used to display the distribution of specific values of the parameter by the frequency of its repetition for a certain period (week, month, year).

"Just-in-time" system (JIT-system) - in a broad sense - is a production philosophy, the main idea of which is the continuous improvement of products and the systematic removal of all unnecessary, i.e. all that leads to an increase in its value without increasing its consumer value. In the narrow sense, it is a system of chain management "supply-production-sales"; the basic principle of this system is the production and delivery of the necessary inventory to the required place and in appropriate quantities exactly at the time when they are needed. It is based on the use of a "pulling" approach to workflow management - parts and semi-finished products are fed to the next technological operation as previously required, i.e. each work site performs work according to the request of the next work site, no rigid production schedule. The application of the system allows the company to approach the implementation of the concept of "Production with zero stock" ("Production without a warehouse").

1) ensuring the stable operation of the operational system for production, works or services in the planned volumes in a timely manner at the appropriate level of quality with maximum performance while maintaining the optimal level of operational system flexibility which guarantees its suitability for renewal and development;

2) initiating and supporting changes in elements, processes, parameters, structure of the operational system to transfer it to qualitatively new levels of operation with

minimal resources and time based on a combination of external opportunities and internal resources of the organization.

**Integrated system for high-quality equipment (TPM-system)** is a system that provides the optimal combination of efficient use of production capacity and the cost of maintaining them in working order by reducing breakdowns and downtime (including through readjustment), as well as increase productivity and improve equipment. It covers not only the maintenance of production facilities during their operation but also the design and manufacture of these facilities, provides active participation in the process of improving the use of equipment of employees of all levels, all services and departments of the enterprise. A characteristic feature of the TPM system is the operation of the equipment by operators grouped into small groups working on this equipment. Also known as the General Operational System.

**Inventories** are stocks that are expected to be included in the process of production or personal consumption. Inventories formed in the operational system consist of products of different levels of readiness and include: stocks of raw materials, basic and auxiliary materials, semi-finished products, parts and components; inventories of work in progress; stocks of finished products.

**Inventory management** is an aspect of operational management the main object of which is the inventory formed in the operational system and its purpose is to reduce excess inventory and stabilize delivery times, i.e. periods of time from placing an order for inventory to receipt enterprise of the necessary resources.

**Inventory storage costs** are costs associated with the current maintenance of existing stocks, as well as costs arising from the withdrawal of inventories of the enterprise; inventory storage costs increase in direct proportion to the increase in the size of the order.

**Kanban (Japanese)** is a term meaning "signal" or "visual record".

**Kanban system** is a system of organization of production and material and technical supply, which allows to fully implement the principle of "Exactly on time". When working on the "Kanban" system, the manufacturer does not have a strict work

schedule; it is not bound by a general plan, but by a specific order of the consumer shop and optimizes its work within this order. There is no specific production schedule for the decade and month; it is actually formed by the circulation of selection cards and Kanban order cards. The Kanban system is based on interaction with a narrow range of suppliers, which are selected on the basis of the ability to guarantee the delivery of high-quality components exactly on time.

**Labor rationing** is the process of establishing the necessary time to perform a particular job.

**Laws of organization of operational systems** are the necessary, essential, established relationships between the elements of the operational system, as well as between this system and its external environment. Laws of organization of operational systems are interdependent and interdependent; they are divided into two groups, i.e. the laws of statics of the system (manifest themselves in structures) and the laws of dynamics of the system (manifest themselves in the processes of development).

**Management** is a function of organized systems of different nature (biological, social, technical), which ensures the preservation of their structure, maintaining the mode of operation, the implementation of their programs and goals.

**Management methods** are ways to influence employees and production teams in general, ensuring the coordination of their activities in the process of achieving goals. All methods of operational management according to the composition and nature of the impact on the objects they manage, are divided into the following four groups: organizational, administrative, economic, socio-psychological.

**Model** is a conditional image of an object of study designed to simplify that study.

**Model of optimal size of order** is a model that aims to determine the optimal (economic) volume of the order, based on the criterion of minimizing the amount of two types of inventory management costs: the cost of registration and execution of the order and the cost of inventory storage.



**Modeling** is research of objects of cognition by means of models; a powerful tool for scientific knowledge and solving practical problems, widely used in science and in many areas of practical operations.

**MRP-I system** is a system of organization of production and logistics. Also known as "Small MRP", "First Generation MRP", "Material Needs Planning System". The basic principle is that all materials, components and components of the product must arrive at production on time to ensure the creation of the final product without any delays. It is based on the use of a "push" approach to workflow management - parts and semi-finished products are fed to the next technological operation in accordance with a strict production schedule; implemented through a computer program that allows you to regulate the supply of components in the production process, while controlling stocks in the warehouse and the course of production.

**MRP-II system** is a system of organization of production and logistics. Includes the functions of the MRP-I system, such as planning the needs for inventory, as well as a number of other functions (automated design, process control, etc.). Like the MRP-I system, it is implemented through a computer program. Also known as "second generation MRP", "Production Resource Planning System".

Non-flow production means production characterized by the following features: at workplaces are processed different in design and manufacturing technology items of labor; Workplaces are arranged in typical groups without any connection with the sequence of operations; in the manufacturing process, parts are moved by complex routes.

**Objectives of operational management:**

**Operational cycle** is the time of one operation, during which one part is made, a batch of identical or several different parts; consists of the sum of durations of technological time and breaks of party affiliation; serves as a basis for determining the production cycle.

**Operation** is a part of an operational process carried out on a certain object of work (object of operational activity) at one workplace by one employee. It is characterized by the immutability of the subject of labor, workplace and performer.

**Operational activities** are purposeful activities to create any utility (any tangible and intangible benefits). It covers the production of material products, and the provision of services, and the performance of any other work in any field of activity.

**Operational control** is the process of comparing the actual parameters of products, technology, the course of the production process with the normative values and regulation, if necessary, i.e. the course of production. It is implemented on the basis of operational accounting and operational analysis.

**Operational function** includes all actions performed in the operational system, as a result of which products are produced, which are supplied by the organization to external consumers. The essence of the operational function is the conversion (transformation) in a series of actions called operational processes, through which the inputs of the operational system are converted into end results.

**Operational management** means management actions aimed at ensuring the effective functioning of the operational system of the organization and achieving the goals set before it; the process of planning, organizing and coordinating, controlling and regulating the processes of production of certain volumes of products, performance of works or provision of services carried out within a specific enterprise (institution, organization); the process of making and monitoring the implementation of management decisions that ensure the successful implementation of the operational function of the organization.

**Operational planning** is the process of establishing or clarifying and specifying the production goals of the organization as a whole and structural unit of its operational system, determining the means of achieving them, timing and sequence of their implementation, identifying needs, resource allocation.

**Operational process** is a set of completed interconnected actions, which together create a certain utility that has value for the consumer to the customer; a set of actions

of people, means of operational activities and nature for transformation of objects of operational activity into its final results. The operational process consists of operations.

**Operational strategy** is a set of interrelated decisions (technological, economic, organizational and resource) to streamline the operational activities of the organization to achieve its strategic competitive advantages; one of the functional strategies of the organization.

**Operational system** means one of the systems of organizations in which the implementation of the operational function is carried out, i.e. production, provision of services, performance of works.

**Operational system planning** is a plan of the spatial arrangement of the material components of the operational system. It is customary to distinguish between planning on the subject principle (linear), on the technological principle (functional) and on the principle of group technology.

**Operational-calendar planning** is the process of establishing a place (operational system unit, site, workplace), time (quarter, month, decade, change), volume and sequence of operations for the manufacturing of products or services in accordance with the production program of the enterprise. It is divided into inter-shop and intra-shop.

**Optimal production program** is a production program provided by sales, which best corresponds to the resource structure of the organization, which guarantees the best results according to the accepted criterion (as the criterion of optimality is most often used maximum profit).

**Optimal size of the order** is the size of the order, which provides the minimum amount of total costs for inventory management (costs for registration and execution of the order and the cost of inventory storage).

**Order point** is a parameter that indicates the lower limit of the stock after which it is necessary to organize the next purchase order. The level of stock at the time of

ordering should be sufficient to continue the smooth operation of the operational system, and the insurance stock should remain intact.

**Planning and accounting unit** is the accounting unit of work accepted in the organization for planning purposes; the composition of planning and accounting units is the most important characteristic of the operational planning system. The main planning and accounting units are: detail of each name; a set of parts included in one assembly unit; a set of parts that are part of different assembly units, but have the same calendar and planning standards (advance on the issue, the rhythms of the parties); order in general, i.e. the whole set of parts and components of the product of one name.

**Preparatory stocks** are stocks of inventory, created in case of need for additional preparation of material resources for use in the production process.

**Process approach** is the application within the organization of a system of processes together with their definition and interaction, as well as their management. For an organization to function effectively, it must identify and manage a number of interrelated activities.

**Process** is a set of interconnected actions that turn inputs into outputs. Inputs include all types of resources consumed by the organization, customers and their property. Outputs are the result of purposeful activities within the process, as well as additional outputs in the form of information, experience, negative impacts on the environment and so on. The inputs of one process are usually the outputs of other processes.

**Product** is the result of operational activities; may be submitted in material form (material products), in information form (intellectual products) or in the form of work performed and services provided.

**Product life cycle** is a set of production processes, processes of circulation and consumption of products of a certain type from the beginning of the study of the possibilities of its creation to the cessation of its consumption and disposal.

**Product quality** is a set of properties and characteristics of the product that provides the ability to meet established or anticipated needs (established needs - fixed

in legal norms, standards, orders, agreements, specifications and other documents; anticipated needs - those expectations that the consumer usually does not formulates specifically, but refers to established wishes).

**Production** - in a broad sense - is the process of creating goods; in a narrow interpretation it is the manufacture of material products carried out at industrial enterprises.

**Production function** is a function that shows the maximum possible output that can be achieved during the calculation period for each specific combination of factors of production.

**Production management** is a set of consistent actions of management to determine the objectives for the object of management (production) and their actual state on the basis of registration and processing of relevant information, the formation and approval (decision-making) of economically rational production programs and operational tasks. The general functions of production management are organization, rationing, planning, coordination, motivation, control and regulation.

**Production program** is a plan of the enterprise for production, performance of works, provision of services, which contains a specific set of tasks on the volume of production of a certain range and range and proper quality for a certain calendar period (usually one year).

**Production structure** is a set of purely production units (shops, sections, service farms and services), which directly or indirectly participate in production activities, their number and composition, the links between them.

**Productivity** is a characteristic of the ability of a particular enterprise to perform the same amount of work less than others to spend resources. It is determined by the ratio of production volumes (services) and the cost of their creation (logistical, technological, raw materials, spatial, personnel, energy, information, time).

**QFD method** is a technology of structuring the quality function, which is a systematic way to study the needs and desires of consumers through the deployment of functions and operations in the company's quality assurance at each stage of the

product life cycle, which would ensure the end result that meets consumer expectations. It is used to convert consumer requirements into quality parameters of the expected product, as well as the compliance of certain parameters with the quality requirements of the processes of planning, development, production and improvement of the product.

**Quality control** is an activity that involves measuring, examining, testing and evaluating one or more characteristics of an object and comparing the results with the established requirements to determine the degree of conformity for each of these characteristics.

**Quality group** is a group of employees of a particular unit of the operational system (shop, department, site, etc.), who voluntarily and regularly meet to identify and analyze real or potential quality problems of the organization, as well as to develop solutions and proposals to management or implement their own decisions.

**Quality** is the level to which the set of own characteristics of a product, process or system meets the stated needs or expectations.

**Quality level** is a relative characteristic of product quality, based on the comparison of the values of quality indicators of the evaluated products with the basic values of the relevant indicators.

**Quality loop** is a schematic representation of interdependent activities that affect quality at different stages of the product life cycle: from identifying needs to assessing the level of their satisfaction. From the point of view of quality management, the "quality loop" is a model of the impact of the quality system on the process of creating products or providing services through the consistent implementation of the functions of administrative and operational management.

**Quality management** includes coordinated management activities to manage the organization in relation to quality.

**Scatter chart (correlation chart)** is a tool that builds a graph of the relationship between two parameters and allows you to determine the type and density of the

relationship between them. By having such a relationship, the deviation of one of the parameters can eliminate the impact on the other.

**Seasonal stocks** are stocks of inventory which are formed by the seasonal nature of production, consumption or transportation. The main purpose of creating such stocks is to ensure the stable operation of the operational system for the period of seasonal breaks in production, consumption or delivery.

**Situational approach** is a methodological approach in which the main task of the operational manager is to correctly link the general approaches and management concepts with the realities of a particular situation in order to most effectively achieve the goals of the operational system of the organization. It is an attempt to identify relevant situational variables and to find out how they affect the efficiency of operational activities. The situational approach is aimed at realizing the possibilities of direct application of scientific provisions to specific conditions of specific situations.

**Stakeholders** are groups of people who have a certain interest in the results of the organization, which include investors, customers, employees, company management, society, suppliers.

**Standard** is a regulatory and technical document that establishes the basic requirements for product quality. Standards define the procedure and methods of planning to improve product quality at all stages of its life cycle, set requirements for tools and methods of quality control and evaluation. Product quality management is carried out on the basis of state, international, industry standards and enterprise standards.

**Standardization** is the activity of establishing in regulatory documents certain requirements (norms, rules and characteristics) in order to ensure the safety of products (services) for the environment, life, health and property of consumers; technical and information compatibility; product interchangeability; quality of products and services in accordance with the level of development of science, technology and engineering;

unity of measurements; safety of economic facilities, taking into account the risk of natural and man-made disasters and other emergencies.

**Statistical acceptance control** is sample control, which makes it possible to assess the quality of a batch of products based on the results of control of a certain sample taken from this batch.

**Statistical precautionary control** is selective control which makes it possible to assess the quality of the technological process by checking samples that are periodically taken from products that have been processed at a certain stage of production (operations). Process quality control is used to regulate the stability of technological processes and is carried out directly during the production or provision of services.

**Statistical quality control** is a scientifically based method of sample control based on probability theory and mathematical statistics, which allows not only to establish the actual level of product quality, but also to actively influence the production process, i.e. to ensure its regulation. It is established to distinguish between statistical acceptance and statistical preventive quality control.

**Strategy of mass production** is a strategy on the basis of which large-scale machine production is built. It is specialized in the production of large volumes of products homogeneous in purpose and design and technological features. It provides maximum standardization and unification of components and parts. Strategy of mass production is characterized by a high level of complex mechanization and automation of all major technological processes.

**Strategy of serial production** is a strategy on the basis of which the production of products is built in large batches (series), repeated at certain intervals, possibly with the subsequent modernization of products. Enterprises with serial type of production specialize in the production of products with a relatively narrow range.

**Strategy of unit production** is a strategy on the basis of which the production of different types of products in one or more copies or small series. A wide range of materials and universal technologies are used in unit production. Most often, this



strategy is used by companies specializing in the manufacture of products to individual orders.

**Strategy, the key priority of which is quality** is production strategy focused on the introduction of quality at all stages of production to meet customer requirements; quality criteria are applied not only to the product or service provided to the consumer, but also to all relevant processes - development, design, production, after-sales service of the product.

**Strategy, the key priority of which is time** is production strategy, the basic priority of which is to reduce the time of operations (development and production of new products or services, responding to changes in consumer demand, supply of products or services, etc.). The basic idea is that by reducing response time, costs are usually reduced, productivity is increased, new products are brought to market faster, and customer service is generally improved.

**Structure of the operational system** is a set of elements and relationships between them that ensure the integrity of the operating system, i.e. the preservation of its basic properties under various external and internal changes. It is determined by the composition and relationships of its elements and subsystems, as well as relationships with the external environment.

**Subjects of operational management** are certain persons who carry out the implementation of the objectives of operational management. These persons include: representatives of senior management of the organization which make strategic decisions in the field of operations; middle and lower management operational managers responsible for the development and implementation of current operational plans to maintain the stability of the operational system and others.

**System approach** is a direction of research methodology, which is based on the consideration of the object as a whole set of elements in the set of relations and connections between them, i.e. the consideration of the object as a system. The systems approach is focused on revealing the integrity of the object; to identify the various

types of connections in it; to highlight the patterns and specific properties of the object that determine its structure and, accordingly, the organization.

**System** is a set of elements that are in relationships and connections with each other and form a certain integrity, unity; basic concept of system approach. According to the nature of the relationship of parameters with the environment, systems are divided into open (systems that exchange matter, energy, information with the environment) and closed (isolated systems that do not exchange matter, energy, information with the environment).

**System of "fixed time" inventory management system** is one of the two basic inventory control and management systems, in which fixed values (regulatory parameters) are the order interval and the maximum level of stock in the warehouse. Orders for replenishment of stocks are placed with the specified frequency; the volume ordered is different each time and depends on the stock in the warehouse at the time of placing the order.

**System of inventory management "with a fixed quantity" of the order** is one of the two basic systems of inventory control and management, in which fixed values (regulatory parameters) are the volume of the order and the point of the order. The level of stocks is constantly monitored; when the quantity of material or raw material decreases to a certain level (order point), the next order for replenishment of stocks is issued, thus the same volume is always ordered.

**System of operational management** is a set of interconnected structural elements that ensure the coordinated interaction of the operational system units to implement the goals set for them. The main elements of the management system are: goals and objectives; object and subject; methodology and principles; functions and management methods.

**System of operational management of operational activities** is a complex organizational and planning system, the main purpose of which is to ensure the rhythmic operation of the enterprise for the production of products (services) in accordance with the established plan by controlling and regulating the processes of its

implementation. The main functions of operational management are operational planning and operational control (dispatching).

**System of optimized production technology (OPT-system)** is a computerized system of organization and production of its management, focused on the prevention of "bottlenecks" in the chain "supply-production-sales".

The concept of "Six Sigma" is a concept of business improvement, the main purpose of which is to find and eliminate the causes of defects and errors in production and service processes, focusing on results that are critical for the consumer and clear financial indicators of profitability. The theoretical basis is the developed provisions for assessing the ability of a statistically controlled process to meet the specified requirements, taking into account the variance of characteristics.

**The concept of lean production (Lean production-concept)** is the concept of creating efficient production using limited resources.

The concept of uninterrupted information support of the product life cycle (CALS-concept) is the concept of organization and integrated information support of the product life cycle adopted in most industrialized countries. It is based on paperless data exchange and standardization of data presentation at each stage of the life cycle. The area of the most expedient application is the design and creation of complex high-tech products.

**The method of FMEA-analysis** is the technology of analysis of the possibility of defects and their impact on the consumer, its task is to identify those defects that cause the greatest risk to the consumer, identify their potential causes and take corrective action before these defects appear, and thus prevent the cost of correcting them.

**The method of organization of production** is a way of carrying out the production process, a set of tools and techniques for its implementation. It is characterized by a number of features, the main of which is the relationship of the sequence of operations of the technological process with the order of the equipment and the level of continuity of the production process.

**The Pareto chart** is a tool that allows you to see the number of losses depending on the various defects, focusing on the elimination of those defects that lead to the greatest losses.

**Time rate** is the amount of labor costs set to perform a unit of work (products) by an employee (group of employees) of the appropriate qualification under certain organizational and technical conditions of production.

**Usefulness** is the ability of a product or service to meet certain needs of consumers. It is customary to distinguish the usefulness of form, place, acquisition, condition, time.

**Virtual enterprise** is an association on a contractual basis of firms involved in product lifecycle support processes and operating on the basis of a common system of information interaction standards. The creation of such enterprises is widely used in the organization of work on the basis of the CALS-concept. Within virtual enterprises, joint projects for the development, production, marketing and service of various types of knowledge-intensive goods are implemented.

When applying these methods, the emphasis is on the so-called non-productive regulated quality (in the process of planning the experiment) and the use of "loss function G. Taguti", which can calculate the amount of quality loss in value terms, deviating from the target value of quality indicators.

## Recommended sources of information

### *Basic*

1. Alekseieva K.A., Vlasenko T.O. Educational and methodology guide to the educational practice «Operational management» for students of specialty 073 «Management», Academic Degree «Bachelor». Kyiv: NULES of Ukraine. Electronic edition. 2022. 110 p. URL: [https://nubip.edu.ua/sites/default/files/u317/2022\\_npm\\_om\\_navchalna\\_praktika\\_angl.pdf](https://nubip.edu.ua/sites/default/files/u317/2022_npm_om_navchalna_praktika_angl.pdf)
5. Shynkaruk L., Alekseieva K., Vlasenko T. Operational management. NULES of Ukraine. 2021. 244 p. URL: [https://nubip.edu.ua/sites/default/files/u317/2021\\_nmp\\_om\\_shin\\_alek\\_vlas.pdf](https://nubip.edu.ua/sites/default/files/u317/2021_nmp_om_shin_alek_vlas.pdf)
6. Operational management. ЕНК на освітній платформі Elearn. URL: <https://elearn.nubip.edu.ua/course/view.php?id=3815>

### *Additional:*

1. Project management: study guide for students of the specialty 073 “Management”. Shynkaruk L.V., Dielini M.M., Alekseieva K.A., Artiukh T.O., Sukhanova A.V.. Kyiv: NULES Ukraine, 2023. 318 p.
2. Шинкарук Л.В., Деліні М.М., Суханова А.В., Алексеева К.А. Управління бізнес-проєктами: навчальний посібник зі спеціальності 073 "Менеджмент". Київ: НУБіП, 2021. 325 с. URL: [https://nubip.edu.ua/sites/default/files/u317/2021\\_posibnik\\_ubp.pdf](https://nubip.edu.ua/sites/default/files/u317/2021_posibnik_ubp.pdf)

### **Internet resources**

1. Бізнес-ідеї: проєкти для бізнес-покнсультантів. URL: <https://mind.ua/publications/20203443-biznes-ideyi-proekti-dlya-biznes-konsultantiv>
2. Топ-200 найперспективніших та кращих бізнес-ідей у 2020 році з урахуванням карантину та коронавірусу. URL : <https://neoseo.com.ua/uk/top-101-samyh-perspektivnyh-biznes-idey-v-2018-godu>.

3. Постановка цілей по SMART. URL : <https://goal-life.com/uk/smart-cil>
4. Розробка бізнес-плану за міжнародними стандартами. URL : <https://pro-consulting.ua/ua/services/sostavlenie-biznes-plana-po-standartam-unido>
5. З чого почати бізнес – вибір організаційно-правової форми. URL: <https://www.olans.com.ua/z-chogo-pochati-biznes>
6. Вибір системи оподаткування. URL: <http://firstconsulting.com.ua/resources/putivnyk-pidpryiemtsia/124-ukrainian/putivnyk-pidpryiemtsia/biznes-z-nulia/261-vybir-systemy-opodatkuвання>
7. Як і для чого пишуть виробничий план проекту. URL: <http://monetary-flow.com/yak-dlya-tchogo-pishuty-virobnitchiy-plan-proektu/>.
8. Як написати маркетинговий план для бізнес-плану. URL: <http://monetary-flow.com/yak-napisati-marketingoviy-plan/>
9. Основи маркетингової стратегії. URL: <https://leosvit.com/art/osnovy-marketyngovoyi-strategiyi>
10. Розробка маркетингової стратегії. URL: <https://koloro.ua/ua/razrobotka-marketingovoj-strategii.html>.
11. Вибір цільового ринку. URL: <http://marketing-helping.com/konspekti-lekcz/21-konspekt-lekczj-qosnovi-marketinguq/391-vibr-czlovogo-rinku.html>
12. SWOT-аналіз. URL : <https://lanet.click/swot-analiz/>

## Appendix A

### INDICATIVE CONTENT OF THE COURSE WORK

#### CONTENT

<b>INTRODUCTION</b> .....	<b>Ошибка! Закладка не определена.</b>
<b>SECTION 1 THEORETICAL ASPECTS OF INVENTORY MANAGEMENT AT THE ENTERPRISE</b> .....	<b>Ошибка! Закладка не определена.</b>
1.1 The essence of inventories in modern conditions	<b>Ошибка! Закладка не определена.</b>
1.2 Methodology of the inventory management system	<b>Ошибка! Закладка не определена.</b>
<b>SECTION 2 ANALYSIS OF INVENTORY MANAGEMENT SYSTEM AT THE ENTERPRISE: Limited Liability Company "Staryy Poryts'k"</b>	<b>Ошибка! Закладка не определена.</b>
2.1 General characteristics of the enterprise LLC Staryy Poryts'k	<b>Ошибка! Закладка не определена.</b>
2.2 Analysis of the process of inventory management at the LLC Staryy Poryts'k .....	<b>Ошибка! Закладка не определена.</b>
<b>SECTION 3 PROPOSALS FOR IMPROVEMENT, IMPROVEMENT OF THE ENTERPRISE INVENTORY MANAGEMENT SYSTEM</b>	<b>Ошибка! Закладка не определена.</b>
3.1 Efficiency and ways to improve the quality of inventory management in the enterprise .....	<b>Ошибка! Закладка не определена.</b>
3.2 Improving the inventory management system	<b>Ошибка! Закладка не определена.</b>
<b>CONCLUSIONS</b> .....	<b>Ошибка! Закладка не определена.</b>
<b>REFERENCES</b> .....	<b>Ошибка! Закладка не определена.</b>

**Appendix B****TERM PAPER TITLE PAGE SAMPLE**

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCES OF  
UKRAINE**

**Faculty of Agrarian Management**

**Term Paper**

**Operational Management**

**on the topic:**

**“Inventory management system at the enterprise”**

**Performer:**

**Maria Y. Yastrebinska**, student of the Faculty of  
Agrarian Management  
4 course, 6 group specialty “Management”

**Scientific Supervisor:**

**Kateryna A. Alekseieva**, As. Professor of the Production and  
Investment Management Department

Date of submission of work for reviewing

\_\_\_\_\_

Registration number

\_\_\_\_\_

Protection date

\_\_\_\_\_

**Kyiv – 2023**