

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
NATIONAL TECHNICAL UNIVERSITY  
"KHARKIV POLYTECHNIC INSTITUTE"

**METHODOLOGICAL INSTRUCTIONS**

**for practical work**

**"Analysis of the company's availability of labour resources"**

**from the academic discipline "Organizational and technical support of the audit  
on occupational safety of workplaces in the field of labor protection"**

for students of specialty 263 "Civil Security"

field of study 26 "Civil Security",

educational program "Occupational Safety and Health"

Kharkiv

NTU "KHPI"

2024

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Methodical instructions for the implementation of the practical work "Analysis of the company's availability of labour resources" from the educational discipline "Organizational and technical support of the audit on occupational safety of workplaces in the field of labor protection" for students of specialty 263 "Civil security" field of study 26 "Civil security", educational program "Occupational Safety and Health" / comp. N. Ye. Tverdokhliebova, N. S. Yevtushenko - Kh.: NTU "KhPI", 2024. - 23 p.

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Department of "Occupational and environmental safety"

## INTRODUCTION

Despite the increasing influence of computer and production technologies on society, the organizer of any activity remains a person. Therefore, a key element of the production strategy at the enterprise is the design of the labor process, taking into account the costs of alternative solutions for the enterprise and employees.

*The purpose of the design of the labor process is the determination of the content and methods of work, the creation of a productive workplace, the improvement of production systems, their interaction taking into account the requirements of the technological process, the principles of rational organization of work and meeting the needs of performers.*

The design of labor processes as one of the important functions of personnel management consists in the quantitative, qualitative, temporal and spatial determination of the need for personnel necessary to achieve the goals of the organization. The personnel design function is becoming more and more important in ensuring the organization's strategy, as accurate accounting of future needs allows for clear orientation during the development of plans for professional development and work with the reserve. The purpose of designing labor processes is to determine its quantitative and qualitative composition, which ensures the development of the enterprise in the short-, medium- and long-term period.

When determining the need for personnel, it is necessary to take into account the market situation, to know the situation on the labor market, in order to ensure the effective coverage of the organization's need for qualified employees, which is a prerequisite for the realization of its goals.

## 1. TERMS

**Purpose of practical work:** to determine directions for designing labor processes, characterize the principles of rational use of personnel, analyze the dynamics of personnel at the enterprise based on calculations of economic indicators.

The design of labor processes is based on the company's development strategy and its personnel policy. The design of labor processes can be carried out in the following directions:

- structurally defined design, that is, design based on the division of labor according to the production process;
- individual design – employee career design, personnel renewal design;
- collective design – design of labor processes of the team or its individual groups.

*Short-term design* - applies for a period of no more than one year.

*Medium-term planning* - involves the development of plans for a period of one to five years.

*Long-term design* is the development of plans for more than five years.

It is advisable to conduct market research in order to determine the current and future needs of personnel, taking into account their quantity and quality, development of production for own preparation of new jobs and requirements for employees; attracting personnel whose personal qualities meet the requirements of the organization.

A comparison of the planned need and the actual number of employees makes it possible to determine changes in the number by professions and job groups, which serves as a basis for developing personnel development programs. At the same time, vacancies are primarily used for staff rotation, career planning and professional growth of employees, development of a retraining and professional development program for successful mastering of work at a new workplace. The source of filling vacancies should primarily be employees who are released from other types of activities and production sites.

The qualitative need is determined on the basis of the professional and qualification distribution of work, requirements for jobs and positions, the staff list of the organization and its structural divisions.

Determining the quantitative need for personnel involves establishing the initial data for calculation and direct calculation of the required number of employees for a certain period of time, jobs, and the amount of expenses.

The additional need (absolute increase in numbers) is provided by hiring young people who graduate from professional educational institutions and recruiting new employees. Personnel selection is carried out both on our own and through employment services, as well as independent personnel centers and firms.

*Project recruitment* is based on a forecast based on which the need for replacement or additional recruitment of employees is determined. At the same time, their qualitative and quantitative characteristics are taken into account. Recruitment planning is carried out based on the volume and structure of the future need for personnel (for example, prioritizing internal recruitment of employees over external ones, inviting educated employees to work, attracting employees from socially unstable strata). Qualitative and quantitative planning of personnel recruitment consists in determining the number of employees of each category of personnel who should be hired for work in the domestic or foreign labor market.

Personnel selection can be carried out on the basis of the following procedures:

- analysis of the documents submitted with the application (certificates, biographies, characteristics, etc.);
- interviews during employment (in an arbitrary or pre-prepared form);
- psychological tests;
- personality assessment through simulation of situations typical for the relevant workplace.

Currently, it is important to *design the release of personnel*, which is associated with the appearance of a surplus of labor compared to the planned need for it. At the same time, it is necessary to find out the causes of the surplus of labor force by checking the structural units and determining in which of them the surplus of labor force appeared. Reasons for release may be as follows:

- cessation of production due to the impracticality of the existence of the enterprise;
- long-term decline in the employment of workers;
- production curtailment processes characteristic of the entire industry;
- limited or unlimited capital deficit;
- new areas of technical development;
- changes in job requirements;
- changes in the organizational structure.

Designing the release of personnel is necessary to establish and timely or anticipatory reduction of its "surpluses". Anticipatory release of personnel with the help of forecasts regarding the release of personnel and the design of alternative use of employees, changing the workplace within the enterprise, refusing to accept new employees, their voluntary dismissal, as well as the development of new working conditions helps to avoid labor surpluses and premature reduction of the staff.

Anticipatory planning of personnel release is widely used in enterprises of Western Europe. This is explained by the fact that the staff is considered as human capital, as a decisive factor for the success of the enterprise, since the staff must be used for a long period and capital investments have been made in it (for example, for measures related to the initial and further education of employees).

The use of personnel is a set of measures aimed at ensuring the conditions for the most effective realization of the labor potential of employees. It should meet the goals of the organization, protect the interests of employees and ensure compliance with labor legislation in the work process.

The main principles of rational use of personnel include ensuring:

- rational employment of employees;
- stability and uniform workload of employees during the working period (day, week, month, year);
- compliance of the employee's work potential, his psychophysiological data with the requirements of workplaces and production by means of a transition from one workplace to another;

- the maximum possibility of performing various operations at the workplace, which ensures alternating loads on different parts of the body and human senses.

Based on these principles, the rational use of personnel means, first of all, achieving a quantitative and qualitative balance of jobs and employees, the spread of flexible forms of employment, ensuring the conditions and organization of work, which contribute to the full realization of the labor potential of employees. In addition, a differentiated approach to the employment of employees at such stages as education, work in pre-retirement and retirement age is necessary.

The development of a system of balances in the regions and in the country as a whole is of priority for the rational formation and distribution of labor resources.

*To the system of balances of labor resources belong to:*

- consolidated balance of jobs and labor resources (report and plan);
- the balance of the calculation of the additional need for workers and employees;
- balance calculation of the need for training of qualified workers;
- balance of working hours, etc.

**Balance of labor resources** as the most important predictive and analytical document consists of sections: population, labor resources, distribution of labor resources, distribution of employed.

**Labor potential** - is an integral assessment of the quantitative and qualitative characteristics of the economically active population.

Quantitative characteristics of labor potential are formed by:

- labor resources and their labor structure;
- aggregate fund of working time, that is, the amount of working time (hours, days, months) worked by the able-bodied population at a given level of labor intensity and the aggregate fund of free time.

The qualitative characteristics of labor potential are reflected by the following indicators:

- physical capacity of able-bodied members of society, state of their health and development;

– the degree of professional and qualification suitability of people to perform work, which depends on their general educational and professional training, individual abilities and skills in work.

At the level of the enterprise, the labor resource is the personnel of the enterprise - it is a set of permanent employees who have received the necessary professional training and have experience in practical activities.

Depending on the functions performed, the employees of the enterprise are divided into categories, groups, in particular, into industrial and production personnel and non-industrial personnel of the enterprise.

According to the state classifier of professional occupations DK 003-95, personnel are divided into the following professional groups:

- *managers* – professions related to management, associations of enterprises, enterprises, institutions, organizations and their subdivisions, regardless of the forms of ownership and types of activities;

- *professionals* – professions that require a high level of knowledge in the field of natural, technical, and economic sciences;

- *specialists* - professions that require knowledge in one or more branches of natural, technical or economic sciences;

- *technical employees* - professions that require the knowledge necessary to prepare, save or restore information and perform calculations;

- *workers in trade and household services* – professions that require the knowledge necessary to provide services;

- *workers with tools* - professions provide knowledge necessary for choosing methods of using materials and tools, determining stages of the work process, characteristics and purpose of final products;

- *operators and assemblers of equipment and machines* – professions require knowledge necessary for the operation and supervision of the operation of equipment or machines, including highly automated ones, as well as for their assembly;

- *the simplest professions* - professions that require knowledge to perform simple tasks using hand tools, in some cases with significant physical effort.

Effective personnel management is impossible without an audit. Therefore, information about the state and movement of the company's existing personnel, obtained as a result of the analysis of the level and dynamics of the following indicators, is of practical value:

- *workforce structure by category* employed, in particular, the number of production workers per one non-production worker, the number of production workers per one administrative worker, the share of administrative workers in the total number;

- *age structure of the workforce*, in particular, the average age of the company's employees, the dynamics of the age structure by categories of employees, individual departments, specialties;

- *educational structure* – composition of the workforce by level of education;

- *length of service* - the average duration of work at the enterprise as a whole, by individual departments, categories of employees, specialties;

- *gender structure of the organization* – percentage ratio of men and women;

- *absence rate (absenteeism)* – the ratio of working time missed by employees during a certain period of time (all types of absences are taken into account except vacations / forced absences at the initiative of the administration) to the total balance of working time of the enterprise for this period;

- *internal staff mobility*, in particular, the mobility ratio (the ratio of the number of employees who changed positions during a certain period to the average number of employees), historical dynamics and comparison with industry averages, the distribution of the labor force by the duration of work in a certain position, i.e., what percentage works in this position less year, from one to three years, from three to five, from five to ten, etc.

## 2. ANALYSIS OF SECURITY OF THE ENTERPRISE LABOR RESOURCES

To characterize the process of forming the stability of the labor team, the following indicators are used:

- *staff turnover rate;*
- *coefficient of staff stability;*
- *staff turnover rate;*
- *staff turnover rate.*

*Average registered number per year* is determined by the formula:

$$R_{av} = \frac{R_b + R_{em}}{2}, \quad (1)$$

where  $R_b$  - is the number (number) of employees at the beginning of the year;

$R_{em}$  - the number of employees at the end of the year.

*Staff turnover* is defined as the ratio of the number of all those who left (turnover on dismissal) or all accepted (turnover on acceptance) for a certain period to the average number of employees during the same period.

*Turnover rate upon dismissal* is determined by the formula:

$$K_d = (R_d : R_{av}) \cdot 100\%, \quad (2)$$

where  $K_d$  - is the turnover rate upon dismissal;

$R_d$  - number of dismissed;

$R_{av}$  - average enrollment.

*Turnover ratio upon acceptance* is calculated similarly:

$$K_{ac} = (R_{ac} : R_{av}) \cdot 100\% \quad (3)$$

*The rate of replenishment of employees* - the ratio of the number of hired employees to the number of those who left the enterprise during the period;

$$K_{replenish.} = \frac{R_b}{R_d} 100 \quad (4)$$

*Total turnover ratio* is defined as the sum of both values:

$$K_{tst} = \frac{R_d + R_b}{R_{av}} 100 \quad (5)$$

Permanence, or *stability*, of personnel is a concept that reflects the value determined by the ratio of the number of employees with more than one year of experience at the enterprise ( $R_{exp}$ ) to their average registered number ( $R_{av}$ ). This indicator is calculated according to the formula:

$$K_{st} = (R_{exp} : R_{av}) \cdot 100\% \quad (6)$$

*The amount of turnover personnel* is characterized by the turnover rate - the ratio of the number of employees who resigned from the enterprise during a certain period of their own volition and who were dismissed for absenteeism and other violations of discipline and other reasons not caused by industrial or national needs ( $R_{nd}$ ) to the average number of employees for the same period :

$$K_{tr} = (R_{nd} : R_{av}) \cdot 100\% \quad (7)$$

It is necessary to distinguish personnel turnover from its variability. Staff turnover refers to the replacement of employees dismissed from the enterprise by hired employees. Its indicator is the coefficient of variability ( $K_v$ ), that is, the smallest number of accepted or released:

$$K_v = \frac{R_d - R_b}{R_{av}} 100 \quad (8)$$

where  $K_v$  - is the coefficient of variability;

$R_b$  ( $R_d$ ) – the smallest number of those accepted (released).

An important area of work with personnel in the organization during recruitment is the management of labor adaptation.

*Adaptation* - is mastering a specialty, as well as adapting the employee to certain social norms of the organization, establishing such relations of cooperation between the employee and the entire team, which will contribute to ensuring effective work, material and spiritual needs of both parties.

Adaptation can be:

- primary, i.e. adaptation of young personnel who do not have professional experience. These are most often graduates of educational institutions;
- secondary, i.e. adaptation of employees who have experience in professional activity, but change the object of activity or professional role.

## Example

Study the dynamics of personnel (workforce movement) of the enterprise according to the given data, draw conclusions (Table 1).

Table 1 – Input data for labor movement analysis

Indexes	Number of people
Number of employees at the beginning of the year	1528
Employees are accepted	28
Employees left, that's all	61
of them:	
in connection with the transition to full-time education	6
conscription for military service	5
retirement	14
expiration of the contract	5
voluntarily	25
on the initiative of the administration	6
Number of employees at the end of the year	1495

## Decision

On the basis of the given data characterizing the movement of personnel at the enterprise, we will calculate the indicators necessary for the analysis.

1. The average number of employees per year:

$$R_{av} = \frac{R_b + R_{em}}{2} = \frac{1528 + 1495}{2} = 1511 \text{ (persons)}$$

2. Total staff turnover rate:

$$K_{tst} = \frac{R_d + R_b}{R_{av}} 100 = \frac{61 + 28}{1511} 100 = 5,85$$

3. Staff turnover rate from reception:

$$K_{ac} = \frac{R_b}{R_{av}} 100 = \frac{28}{1511} 100 = 1,85\%$$

4. The staff turnover rate from the dropout:

$$K_d = \frac{R_d}{R_{av}} 100 = \frac{61}{1511} 100 = 4,04\%$$

5. Employee replenishment rate:

$$K_{replenish} = \frac{Rb}{Rd} 100 = \frac{28}{61} 100 = 45.9\%$$

6. Stability coefficient:

$$K_{st} = \frac{R_{exp}}{R_{av}} 100 = \frac{14955}{1511} 100 = 98,9\%$$

7. Employee turnover rate:

$$K_{tr} = \frac{R_{nd}}{R_{av}} 100 = \frac{36}{1511} 100 = 2,38\%$$

8. Staff turnover rate:

$$K_v = \frac{Rd - Rb}{R_{av}} 100 = \frac{61 - 28}{1511} 100 = 2,18\%$$

Conclusion: during the reporting year, the company hired 1.85 new employees and dismissed 4.04 employees per 100 employees, i.e., more employees left than were hired (replenishment rate 45.9%). Staff turnover was 2.38%, which can be assessed as satisfactory. The analysis of the movement of personnel of the enterprise allows us to draw a conclusion about a certain decrease in the number of personnel.

The obtained data must be compared with similar calculations of previous years. Further analysis of the personnel movement indicators of the analyzed enterprise may be aimed at determining the reasons for the dismissal of employees.

### 3. PRACTICAL PART

**Task 1.** Study the dynamics of personnel (workforce movement) of the machine-building plant according to the given data (Table 2 according to options). Enter the results in Table 3. Draw conclusions.

Table 2 – Input data for labor movement analysis

#### Option 1

Indexes	The value of indicators	
	2021 year	2022 year
Number of employees at the beginning of the year, persons	1331	1241
Employees, persons are accepted of them to newly created jobs	143	147
Employees, persons left of them for reasons:		
- changes in the organization of production and work (reorganization, reduction in the number or staff of employees)	1	4
- staff turnover (at one's own will, by agreement of the parties, violation of labor discipline, etc.)	210	153
Number of employees at the end of the year, persons	1263	1231

#### Option 2

Indexes	The value of indicators	
	2021 year	2022 year
Number of employees at the beginning of the year, persons	1415	1380
Employees, persons are accepted of them to newly created jobs	211	312
Employees, persons left of them for reasons:		
- changes in the organization of production and work (reorganization, reduction in the number or staff of employees)	2	4
- staff turnover (at one's own will, by agreement of the parties, violation of labor discipline, etc.)	218	144
Number of employees at the end of the year, persons	1326	1348

### Option 3

Indexes	The value of indicators	
	2021 year	2022 year
Number of employees at the beginning of the year, persons	985	1216
Employees, persons are accepted of them to newly created jobs	145	214
Employees, persons left of them for reasons:	-	-
- changes in the organization of production and work (reorganization, reduction in the number or staff of employees)	114	211
- staff turnover (at one's own will, by agreement of the parties, violation of labor discipline, etc.)	1	3
Number of employees at the end of the year, persons	215	169
	869	1196

### Option 4

Indexes	The value of indicators	
	2021 year	2022 year
Number of employees at the beginning of the year, persons	1215	980
Employees, persons are accepted of them to newly created jobs	210	111
Employees, persons left of them for reasons:	-	-
- changes in the organization of production and work (reorganization, reduction in the number or staff of employees)	244	94
- staff turnover (at one's own will, by agreement of the parties, violation of labor discipline, etc.)	6	1
Number of employees at the end of the year, persons	190	58
	1110	960

### Option 5

Indexes	The value of indicators	
	2021 year	2022 year
Number of employees at the beginning of the year, persons	1443	1259
Employees, persons are accepted of them to newly created jobs	319	144
Employees, persons left of them for reasons:	126	-
- changes in the organization of production and work (reorganization, reduction in the number or staff of employees)	210	168
- staff turnover (at one's own will, by agreement of the parties, violation of labor discipline, etc.)	3	5
	174	121

Number of employees at the end of the year, persons	1321	1115
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### Option 6

Indexes	The value of indicators	
	2021 year	2022 year
Number of employees at the beginning of the year, persons	2124	2820
Employees, persons are accepted of them to newly created jobs	215	318
Employees, persons left	-	200
Employees, persons left of them for reasons:	311	298
- changes in the organization of production and work (reorganization, reduction in the number or staff of employees)	7	3
- staff turnover (at one's own will, by agreement of the parties, violation of labor discipline, etc.)	420	284
Number of employees at the end of the year, persons	1720	2515

### Option 7

Indexes	The value of indicators	
	2021 year	2022 year
Number of employees at the beginning of the year, persons	1298	1656
Employees, persons are accepted of them to newly created jobs	164	298
Employees, persons left	-	-
Employees, persons left of them for reasons:	210	164
- changes in the organization of production and work (reorganization, reduction in the number or staff of employees)	2	5
- staff turnover (at one's own will, by agreement of the parties, violation of labor discipline, etc.)	302	260
Number of employees at the end of the year, persons	1014	1328

### Option 8

Indexes	The value of indicators	
	2021 year	2022 year
Number of employees at the beginning of the year, persons	1786	2024
Employees, persons are accepted of them to newly created jobs	190	298
Employees, persons left	-	100
Employees, persons left of them for reasons:	512	217

- changes in the organization of production and work (reorganization, reduction in the number or staff of employees)	10	3
- staff turnover (at one's own will, by agreement of the parties, violation of labor discipline, etc.)	390	143
Number of employees at the end of the year, persons	1486	1869

### Option 9

Indexes	The value of indicators	
	2021 year	2022 year
Number of employees at the beginning of the year, persons	1428	1720
Employees, persons are accepted	145	220
of them to newly created jobs	-	10
Employees, persons left	310	245
of them for reasons:		
- changes in the organization of production and work (reorganization, reduction in the number or staff of employees)	5	2
- staff turnover (at one's own will, by agreement of the parties, violation of labor discipline, etc.)	204	156
Number of employees at the end of the year, persons	1230	1669

### Option 10

Indexes	The value of indicators	
	2021 year	2022 year
Number of employees at the beginning of the year, persons	1258	1190
Employees, persons are accepted	153	137
of them to newly created jobs	-	-
Employees, persons left	190	143
of them for reasons:		
- changes in the organization of production and work (reorganization, reduction in the number or staff of employees)	1	3
- staff turnover (at one's own will, by agreement of the parties, violation of labor discipline, etc.)	200	146
Number of employees at the end of the year, persons	1144	1086

Table 3 – Analysis of the labor force movement of the machine-building plant for 2021-2022.

Indexes	The value of indicators		Deviation	
	2021 year	2022 year	relative	absolute
Number of employees at the beginning of the year, persons				
Employees, persons are accepted of them to newly created jobs				
Employees, persons left of them for reasons:				
- changes in the organization of production and work (reorganization, reduction in the number or staff of employees)				
- staff turnover (at one's own will, by agreement of the parties, violation of labor discipline, etc.)				
Number of employees at the end of the year, persons				
Turnover ratios:				
- from reception				
- from elimination				
Total turnover ratio				
Turnover, %				
Labor force variability, %				

#### 4. CONTROL QUESTIONS

1. Levels and subjects of personnel audit.
2. Classification of areas of personnel audit.
3. Principles of audits in the field of labor.
4. Types of personnel audit.
5. The main parameters of the audit by personnel management functions.
6. Research approaches to personnel audit.
7. Personnel audit toolkit.
8. Personnel audit methods, their characteristics.
9. Sources of personnel audit.
10. Compare the categories "labour resources" and "human capital".

11. What document regulates working hours in Ukraine? Specify the normative values.
12. Clarity of the essence of the term "human development index". Name the indicators that determine it.
13. What document regulates the distribution of company employees by professional groups? Name the main professional groups.
14. By which indicator is the degree of correspondence of the employee's qualification level to the work performed by him determined?
15. Name the components of professional personnel selection systems. Give them a description.

## **5. REPORT**

The completed report must contain:

1. The name of the practical work
2. The purpose of practical work
3. Solution of the problem, filling in the table, conclusions
4. Answers to control questions

## LIST OF REFERENCES

1. Berezutskiy V.V. Risk management of the use of equipment and technologies: a textbook for students of specialty 263 “Civil Security”, educational program “Labor Protection”. Kharkiv : Panov A. M., 2020. 424 c.
2. Audit: a textbook / L.I. Zhideeva, O.P. Kolisnyk, K.D. Salamon-Mikheeva – Irpin, 2019. 312 p.
3. Zagorodnij O.V. Organizational and technical support of labor protection. K.: Naukova Dumka, 2021- 280 p.
4. Kostenko T.M. Labor safety audit: theory and practice. Lviv: Ivan Franko National University of Lviv, 2020. 312 p.
5. Petrenko, Y. O. Methods for assessing occupational safety at workplaces. Kharkiv: V. N. Karazin Kharkiv National University, 2021- 200 p.
6. Zbricka TP, Salo YV Z - 42 Personnel audit: Study guide - Odesa: ONEU, 2019, - 381 p.
7. Methodological instructions for the implementation of the calculation and graphic task "Technical and economic efficiency of measures aimed at improving occupational safety in production" : from the discipline "Organizational and technical ensuring the audit of professional safety of workplaces in the field of labor protection" for students of specialty 263 "Civil Security" / comp.: N. S. Yevtushenko, N. Ye. Tverdokhliebova. – Kharkiv : NTU "KhPI", 2024. – 26 p.
8. Methodical instructions to independent work of students on the discipline "Organizational and technical support of audit on professional safety of workplaces in the field of occupational safety" [Electronic resource] / comp.: N. S. Yevtushenko, N. Ye. Tverdokhliebova ; National Technical University "Kharkiv Polytechnic Institute". – Electron. text data. – Kharkiv, 2023. – 18 p.

## **Educational edition**

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