Azerbaijan State Oil and Industry University, Faculty of Economics and Management

050408 - "Management" for Bachelor's Degree

SYLLABUS of

o"Quality Management"

Course	II
Semester	IV
Number of hours according to the curriculum	60
Including lecture	.30
Workshop (seminar)	.30
Laboratory	-
Number of credits.	5

In the form of visual learning, the number of hours allocated for students' independent work outside the classroom is 60. An exam is planned for the fourth semester..

The syllabus (work program) was compiled in accordance with the curriculum of the specialty 050408 – "Management".

The syllabus was discussed at the meeting of the "Management" department (pr. No. 06, 14 . 02 . 2024).

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Structure of the syllabus for the subject "Quality Management"

- I. Subject's description
- II. Subject's goals and objectives
- III. Subject's content
- IV. Types and duration of Subject's classes
- V. Assignments for the student's freelance work and their completion time, counseling hours
- VI. Teacher's requirements
- VII. General knowledge assessment criteria, distance assessment tables
- VIII. Used literature

I. Subject's description

The science of "Quality Management" studies processes and operations aimed at improving the quality of products and services, which are an indicator of high labor efficiency, a source of our national wealth, and the main sign of a highly developed economy, and improving the control system over them.

II. Subject's goals and objectives

The main goal and educational objective of the subject is to teach future economists a brief description of quality control in enterprises and organizations, principles, methods, quality indicators and factors affecting them, types of technical control over product quality, factors that maintain product quality, methods of quality expertise, and detailed information about the standardization and certification of goods..

III. Subject's content

Фянн ашаьыдакы мювзуларда тядрис олунур:

1. INTRODUCTION. GOALS AND OBJECTIVES OF THE DISCIPLINE

The subject of the subject "Quality Management", the object of study, the main goal and the tasks facing it. The relationship of the subject with other subjects. Scientific-theoretical and methodological foundations of the subject. Methodology of studying the subject.

The content and essence of quality management. The main directions of quality control. The concept of "Qualimetry" and general information about "Qualimetry". The history of the emergence and development of qualimetry. The main aspects of qualimetry. Normative and methodological documents required for solving various issues of qualimetry. The unity of product quality and quantity.

The place and role of the subject in the preparation of bachelor-engineer personnel for industrial enterprises, its methodological basis.

2. INDUSTRIAL QUALITY PRODUCTS AND FACTORS AFFECTING IT

The concept of "product quality". Product suitability and consumer properties. Production quality. The importance of improving product quality.

The concept of "quality indicators". Classification of quality indicators: single, complex, integral, basic, generalized and relative indicators. Determination of the integral indicator of quality. Requirements for the quality and safety of oil and oil products specified in normative documents on standardization.

Optimal quality level of the product. The concept of "totality level". Determination of the quality level of the product.

Requirements for product quality: current, prospective, general and specific requirements. Grouping of current, prospective, general and specific requirements for the product depending on which aspect of product consumption they characterize.

The concept of "service life" and its importance. External and internal obsolescence. Physical and moral obsolescence.

Classification of factors affecting product quality. Factors shaping quality: objective and subjective factors.

The essence and content of the product design. Technological processing.

3. TYPES OF TECHNICAL CONTROL OF PRODUCT QUALITY

Requirements for technical control of product quality. Types of testing of finished products: acceptance and regular tests, periodic and type tests, certification tests, operational tests.

Types of final and selective control. Control of products by quality and quantity characteristics. Control of reliability indicators. Current control during the production of products.

4. EVALUATION METHODS OF PRODUCT QUALITY LEVEL

The term "quality level assessment". Problems and results of quality level assessment. Determination of quality level. Importance of quality level determination. General algorithm of complex quality level assessment. Selection of properties for assessing the quality level of products. Consideration of the criteria of necessity and effectiveness in the selection of properties.

Methods for determining the properties of products. The essence, advantages and disadvantages of the organoleptic method. Cases when the expert method is applied. The content of the expert method. The procedure and means of conducting the instrumental method. Objectivity of the instrumental method.

The concept of "unevenness of the product". Visible and hidden inequality. Distribution curve. Determination of the inequality of property indicators by calculation. Basic formulas subject to the law of distribution for analyzing measurement results.

Comparative assessment of individual quality indicators with base indicators. The difference between the terms "Measurement" and "Evaluation".

Determination of the weighting coefficients of properties by the expert method. Determination of complex quality indicators.

5. ECONOMIC EVALUATION OF PRODUCT QUALITY

Conditions for the importance of economic assessment of product quality. Determination of economic efficiency. Efficiency for the manufacturer of the product. Calculation of economic efficiency for the consumer operating the equipment.

Accounting for costs in the economic assessment of product quality. Production costs: direct and indirect costs. Calculation of the integral economic indicator of the production of quality products. Determination of the economic indicator characterizing the operation of the product.

6. CRITERIA FOR OPTIMIZING QUALITY INDICATORS

The essence and role of determining the optimal value of quality indicators. Directions of optimizing quality indicators. The essence and content of the optimization criterion and optimization limit. Conditions necessary for finding the optimal value of a quality indicator.

The principle of average balanced prices. General determination of the average balanced complex indicator. Graphical representation of the average balanced complex indicator of quality (numerical and geometric). Finding the optimal compatibility of the product composition. Change in the intensity of the useful effect over time.

7. PRODUCT QUALITY CONTROL METHODS AND STAGES

The purpose and essence of production control over quality. Duties of the technical control department. State bodies controlling product quality. Comprehensive and selective control. The concept of "product batch". Advantages and disadvantages of the random sampling method. The main features and areas of application of the card method.

Control by quantitative, qualitative and alternative characteristics. Types of testing control depending on the purpose, duration and method of implementation. Basic requirements for testing control.

Stages of quality control: the essence and differences of one-stage, two-stage and multi-stage control. The procedure for selecting product samples for testing oil and oil products according to normative documents on standardization.

8. FACTORS THAT PRESERVE PRODUCT QUALITY

The effects that goods are exposed to during transportation. Means of preserving the quality of goods. The importance of packaging goods in delivering high-quality

goods to consumers. The nature of internal packaging. External packaging used for the safe transportation and storage of goods in warehouses.

Optimal storage conditions for goods. Factors affecting the preservation of the quality of goods: temperature, humidity, light, proximity of goods, their placement. The effect of sharp temperature fluctuations on the quality of goods. General conditions for the storage of industrial goods. Conditions for loading, unloading and transportation of goods. Factors affecting the quality of goods transportation.

9. PRINCIPLES AND METHODS OF QUALITY MANAGEMENT

Levels of management of subsystems of total quality management. High-level quality management in the management structure. Management of government executive activity in public administration structures. Application of the "seven principles" in the purposeful management systems of the enterprise, including complex systems.

Requirements for the study of quality management. One-time, periodic and regular studies. Fundamental and applied areas of use of research results. Empirical and theoretical directions of research. Ensuring the depth and significance of research in the organization with local and complex types. Study of the parameters envisaged by the systematic approach in complex research. Theoretical, empirical and theoretical-empirical methods applied in the study of quality management.

Types of prognostic, diagnostic, detailed and global analysis. Methods frequently used in practice: goal structuring method, normative method, parametric method, correction method, graphical modeling method.

10. QUALITY MANAGEMENT METHODS

Quality management methods: economic, organizational-task (administrative) and socio-psychological methods. Classification features of quality management methods: basis for application, nature of impact, main means of influence, basis for choosing a method, limitations in choosing a method.

Technological methods of quality management: automatic, statistical analysis and control card method. Application of the Pareto diagram.

The essence of the economic method of quality management and the processes included in it. The essence of the organizational-task method and the work included in this method. Requirements for quality management documents. The influence of the socio-psychological method on the course of socio-psychological processes in the labor collective.

11. THE ROLE OF STANDARDIZATION IN IMPROVING PRODUCT QUALITY

The content, essence and stages of development of standardization. Scientific and methodological foundations of standardization. The procedure for conducting standardization. The concept of "unification".

Methods of standardization of products: methods of aggregation, classification, typification. Complex anticipatory and step-by-step standardization.

Categories of normative documents on standardization. Requirements stipulated in state standards: mandatory and recommended requirements.

Sector standards and technical conditions corresponding to the mandatory requirements of state standards. Stages of development of sector standards. Procedure for development of technical conditions. Types of standards by their nature and purpose.

Rules for development of state standards. Documents attached to the draft standard sent for approval. International organizations on standardization, their goals and objectives.

12. QUALITY MANAGEMENT CERTIFICATION ASSURANCE

Certification - as a means of ensuring the competitiveness of products in the domestic market and international trade relations. Objectives of certification work. Certificate of conformity and conformity mark. Accredited laboratory. Inspection control. Expert-auditor activities.

Functions and duties of the State Committee for Standardization, Metrology and Patent of the Republic of Azerbaijan.

Grouping of operations performed on certification by stages: preparatory stage, certification stage, post-certification stage. Substitute principles of system certification. Types of inspections: planned, current and unscheduled inspections. Requirements for certification of enterprises implementing product sales within the country.

13. METHODS OF QUALITY EXPERTISE OF PRODUCTS

Expertise stage – as the next stage in the assessment of product quality indicators. Finding the average value of the opinions of specialists-experts on the issues under consideration. Classification of product expertise methods: objective and heuristic. Organoleptic methods: visual, tactile, olfactory, gustatory and audio methods. Advantages and disadvantages of organoleptic methods. The interaction of organoleptic methods and quality indicators. The essence, content and classification of instrumental methods, which are laboratory methods.

Expert methods: survey of an expert group, assessment of expert qualities and mathematical-statistical calculation method of expert assessment. The main stages of conducting an expertise. Composition of the expert commission – working and expert groups. Typical structure of the expert commission. Classification of experts by competence and quality. Methods of documentary confirmation of requirements for an expert. Formation of the expert assessment process.

Sociological method. Direct sociological assessment. Determination of the results of direct sociological assessment of objects.

14. TYPES OF COMMODITY EXPERTISE

Classification of commodity expertise. Content and importance of commodity expertise. Types of commodity expertise. Quantitative expertise. Measurement of quantitative indicators of the product using measuring and calculating tools. Quality expertise. Types of quality expertise and rules for conducting it. Variety expertise. Comprehensive expertise.

Content and essence of sanitary-hygienic expertise and the need for its conduct. Classification of sanitary-hygienic expertise. Phytosanitary expertise. Purpose and conditions for conducting technological expertise.

Ecological expertise of products. Tasks of ecological expertise. System of environmental quality standards. Classification of ecological indicators.

Sources of environmental pollution. Confiscation and utilization of substandard and dangerous products.

15. DOCUMENTATION AND INFORMATION PROVISION OF QUALITY CONTROL

Quality management policy. Fundamental, general and specific documents of the quality area at the enterprise level. Structure and classification of the general quality management document. Sections of the quality management document of foreign organizations. Stages of development of important procedural rules provided for in the additional quality plan at the enterprise. Composition of sections of the management procedure.

Efficiency of objective information. Requirements for information in accordance with the requirements for documentation support of quality management. Conditionally fixed and variable parts of information. Fundamentals of automation of information support of quality control.

IV. Types and duration of Subject's classes

050405 - It is planned to conduct lectures and torchlight classes in the faculty of "Organization and management of industry".

V. Assignments for the student's freelance work and their completion time, counseling hours

Фяннин тялябяляр тяряфиндян семестр ярзиндя ардыъыл мянимсянилмяси цчцн təqdimat edəcəyi ишин йериня йетирилмяси нязярдя тутулур. Təqdimat ишинin тапшырыглары мцяллим тяряфиндян semestrin I həftəsində верилир.

Тялябяляр кечилян мцщазиря, лабораторийа вя мяшьяля дярсляринин вя мювъуд ядябиййатын ясасында верилян тапшырыглары сярбяст йериня йетирирляр. Тәqdimat тапшырыглары сядвял 5-дя верилмишдир.

Mövzularıntəqdimatı V-VIII həftələrdə aparılır,нятиъяси 20 балаdək гиймятляндирилир.

VI. Teacher's requirements

Teacher requirements include the following criteria:

- 1. Regular participation of students in classes;
- 2. To participate willingly in the lessons as a result of free study on the topics provided in the lectures and lectures;
- 3. Work freely with the literature offered;
- 4. Actively participate in classes, ask questions to the teacher about unclear issues;
- 5. To spend 50% of the total hours devoted to the teaching of science for free work outside the classroom and 50% of it to work together with the teacher;
- During the semester, checking of knowledge in each lesson and assigning responsibility to students;
- 7. To make demands on the teacher regarding the deep adoption of science;
- 8. To make a serious effort to gain the maximum 50 points intended by the students during the semester for the adoption of the subject.

VII. General knowledge assessment criteria, distance assessment tables

To determine the level of adoption of science by students

for this purpose, the assessment of advanced knowledge is carried out in lectures and lectures. In addition to these, inter-session examinations are conducted on the basis of the mechanism of 2 mid-term examinations during the semester. Mid-term exams are conducted according to the established rules, so the I mid-term exam is held in the 4th week, and the 2nd mid-term exam is held in the 13th week. The conducted first intermediate exam is evaluated with 0-5 points, and the second intermediate exam is evaluated with 0-25 points. 30% of the result of the second intermediate exam is evaluated based on the training lessons (17+8=25 points). The results are recorded in the group journal and the evaluation of the subject's self-esteem during the semester is determined, and it is included in the points earned by the students for the subject during the semester.

Course	Points				
components	lecture and exercise	lecture, exercise and laboratory	lecture, exercise, laboratory and course project (term paper)	lecture, exercise and course project (term paper)	
Independent work or presentation	20	10	5	10	
Laboratory	-	20	5	-	
Course project (term paper)	-	-	20 (with no less than 10 points)	20 (with no less than 10 points)	
Midterm exam (2 times per semester)	30	20	20	20	

New assessment according to the components of the subject

Knowledge assessment is carried out on the basis of a multi-point system. The maximum score that students can score in a subject is 100. 50 points of this are earned in the exam, and 50 points are earned during the semester.

The distribution of the maximum 50 points to be collected during the semester according to educational indicators is carried out in accordance with the order of ASOIU No. 02/149 dated 04.02.2019 on the assessment of students studying with the credit system.

050405 - "Organization and management of industry" specialty:

-30 points according to the results of mid-term exams;

-20 points according to the student's presentation work.

The assessment of points according to the exam, according to the presentation work in subjects, according to the results of the workshops is carried out in accordance with the Regulations "On the assessment of the knowledge of students studying with the credit system".

VIII. Used literature

Main

- 1. Mammadov N.R., Alakbarov E.B., Aslanov Z.Y. and others. Qualimetry and quality management. Textbook. Baku: Elm, 2007
- A.P. Hasanov, T.R. Osmanov, N.N. Hasanov and others. Theoretical foundations of non-food product expertise. Textbook. – Baku: "Iqtisad Universiteti" publishing house, 2010. – 514 p.

3. Mammadov N.R. Fundamentals of standardization. Textbook for higher education institutions. – Baku: Elm, 2002. – 388 p.

Additonal

- Azgaldov G.G. Theory and practice of quality assessment of goods. М., Экономика, 1989. - 256 с.
- Leonov I.G., Aristov O.V. Production quality management. Study guide. -М.: Изд.-во стандаров, 1990. - 223 с.
- Fedyukin V.K., Durnev V.D., Lebedev V.G. Methods of assessing and controlling the quality of industrial production. Textbook. - M.: Informationpublishing house "Filin", Rylant, 2000. - 328 p.
- Svitkin M.Z., Matsuta V.D., Rakhlin K.M. Quality assurance of production based on international standards ISO series 9000.- SPb.: SPbGUEF, 1997. – 220 c.

Table	1	
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Hours planned for the specialty				
050405 - "Industrial organization and management"				
Total	Lecture	Exercise	Credits	Seminar
60	30	30	5	2

Table 2

	Program topics English. Aims and objectives of the subject	On specializations		
		050405 - "Organization and management of industry"		
		Total	Lecture	Exercise
1	Factors affecting the quality of industrial products	4	2	2

2	Types of technical control of product quality	4	2	2
3	Methods of assessing the quality level of products	4	2	2
4	Economic assessment of product quality	4	2	2
5	Criteria for optimizing quality indicators	4	2	2
6	Methods and stages of product quality control		2	2
7	Factors that maintain product quality	4	2	2
8	Principles and research methods of quality management	4	2	2
9	Quality management methods	4	2	2
10	The role of standardization in improving product quality	4	2	2
11	Certification assurance of quality management	4	2	2
12	Methods of product quality expertise	4	2	2
13	Types of commodity expertise	4	2	2
14	Documentary and information support of quality control	4	2	2
15	Program topics	4	2	2
Total		60	30	30