|  |  |  |
| --- | --- | --- |
|  |  | **Department of International economics** |
| ECONOMIC ANALYSIS OF INTERNATIONAL BUSINESS: FUNCTIONAL AND COST ANALYSIS  **Working program of the discipline (Syllabus)** | | |

# Details of the discipline

|  |  |
| --- | --- |
| The level of higher education | *First (bachelor's)* |
| Branch of knowledge | *051 Economics [[1]](#footnote-1)* |
| Specialty | *International Economics* |
| Educational program | *International Economics* |
| Discipline status | *Selective* |
| Form of study | *full-time study* |
| Year of preparation, semester | *3th year, autumn semester* |
| The scope of discipline | *105* |
| Semester control / control measures | *test* |
| Timetable | *Friday* |
| Language of instruction | *English* |
| Information about  course leader / teachers | *Lecturer: Doctor of Economics, Professor , Okhrimenko Oksana,* [*o.okhrimenko@kpi.ua*](mailto:o.okhrimenko@kpi.ua)*[[2]](#footnote-2)*  Practical / Seminar: *Okhrimenko Oksana,* [*o.okhrimenko@kpi.ua*](mailto:o.okhrimenko@kpi.ua) |
| The level of higher education | https://classroom.google.com/c/MTU5OTc2MDE1NDc0?cjc=2ovuatj |

# Curriculum

1. **Description of the discipline, its purpose, subject of study and learning outcomes**

Functional cost analysis, as a method of systematic study of the functions of the object (product, process, structure), is designed to minimize costs in the areas of design, production and operation of the object while maintaining its quality and usefulness. This methodological approach creates conditions for optimizing the cost, consumer value and other characteristics of products, services and consumers based on the functions and resources involved in production, marketing, sales, supply, technical support, service delivery, customer service and quality assurance.

**The purpose of the discipline** - to master the theoretical knowledge of functional and cost analysis of various objects, tools, methods of analysis in terms of different cost accounting systems**.**

**The subject of the discipline is** the development of theoretical foundations and methodological approaches to the functional-cost analysis of various objects**.**

**Program learning outcomes:**

*Competences:*

*Knowledge:*

* the essence and necessity of functional-cost analysis;
* features of application of different methods of functional-cost analysis;
* regularities of evolution of cost accounting systems of different levels and to reveal possibilities of application of FVA on their basis;
* features of functional-cost analysis in relation to various objects;
* systems of financial and non-financial indicators used in the framework of functional-cost analysis;

*Skills:*

* collect, process, analyze the information necessary for the FVA;
* identify potential objects of functional-cost analysis and formulate its objectives;
* to be guided in the basic forms of realization of the functional-cost analysis;
* focus on the classification of costs on various grounds;
* be able to conduct functional-cost analysis in relation to various objects;
* determine the role of functional-cost analysis in the cost management system;
* to focus on methodological approaches to the implementation of functional-cost analysis.

*Use:*

* mastering the methodological foundations of functional-cost analysis;
* the use of methods of technical creativity in solving problem situations;
* the use of FVA in solving management problems;
* skills in critical thinking and forming one's own opinion about problem situations;

# Prerequisites and postrequisites of the discipline (place in the structural and logical scheme of education according to the relevant educational program)

The discipline "Economic analysis of international business: functional-cost analysis" is taught after studying the courses "Business Economics", "Enterprise Finance", "Management", "Feasibility study of economic decisions", "International Economics", "Organization of production" and precedes the study of disciplines "International Consulting", "Fundamentals of International Business", "Enterprise Finance».

**The content of the discipline**

*Topic 1. The concept of functional-cost analysis*

*Topic 2. Functional approach to production systems*

*Topic 3. Organization of the FVA system*

*Topic 4. Cost accounting in the FVA system*

*Topic 5. The structure of costs in the FVA system*

*Topic 6. Cost management*

*Topic 7. Application of non-financial indicators in FVA*

*Topic 8. Differentiated management of business processes in the enterprise*

**Training materials and resources**

***Basic literature****:*

*1.Охріменко О.О. Функціонально-вартісний аналіз. Навчальний посібник. Київ, «Освіта України», 2013 , 208 с. 5 примірників у бібліотеці університету.*

*2. Set of presentations* https://classroom.google.com/c/MTU5OTc2MDE1NDc0?cjc=2ovuatj

***Additional literature****:*

*1.Younker D.L. Value engineering: Analysis and Methodology. Marcel Dekker, Inc. New York Basel, 2002 326 p.*

# Educational content

# Methods of mastering the discipline (educational component)

Lecture 1. The concept of functional-cost analysis

1.1.The essence and main provisions of FVA

1.2. The difference between FVA and traditional methods of cost accounting

1.3. History of FVA

1.4. Evolution of FVA

Lecture 2. Functional approach to production systems

2.1. The concept of function and consumer value in FVA

2.2. Classification of functions and rules of their formulation

2.3. Approaches and principles in conducting FVA

Lecture 3. Organization of FVA

3.1.The value of functional-cost analysis for the economic activity of the enterprise

3.2.FVA facilities

3.3. The main stages of functional-cost analysis

3.4. Forms and procedures of functional-cost analysis

Lecture 4. Cost accounting in the FVA system

4.1. The role of costs in production efficiency

4.2. Methods of cost accounting and costing of products, works, services

4.3. Evolution of cost management systems

Lecture 5. Calculation of costs and pricing in the FVA system

5.1.Types of costs for functions

5.2.Classification of costs in management accounting

5.3.Calculation of costs

5.4.Pricing methods

Lecture 6. Cost Management

6.1. Calculation of costs by place of origin

6.2. Classification of places of occurrence of expenses

6.3. System of normative accounting of expenses and planning of budgets

6.4. Limitations of the system of normative accounting and flexible budget planning in determining the cost of production

Lecture 7. Application of non-financial indicators in FVA

7.1. The role of non-financial indicators

7.2. Application of FVA in benchmarking

7.3. Features of the Kaizen system

7.4. Pseudo-profit centers

Lecture 8. Differentiated activity management

8.1. The concept of operation-oriented management

8.2. Production aspects of management

8.3. Product range and price formation

8.4. Customer relations

8.5. Product design and engineering

Practical lesson 1 Methods of technical creativity

1.1.Heuristic methods (random search strategy);

1.2.Methods of functional-structural research of objects;

1.3. Combined algorithmic methods (logical search strategy).

Practical lesson 2. The concept of functional-cost analysis.

2.1. The essence and basis of the provisions of the FVA.

2.2. The difference between FVA and traditional methods of cost accounting.

2.3. History of FVA.

2.4. Evolution of FVA.

Practical lesson 3. Functional approach to production systems.

3.1.The concept of function and consumer value in FVA.

3.2 .. Classification of functions and rules of their formulation.

3.3. Approaches and principles in conducting FVA.

Practical lesson 4. Application of FVA in personnel management

4.1. Stages of conducting FVA in management

4.2. Optimization of the functions of the personnel training department

4.3. Reorganization of the functional structure of the department

Practical lesson 5. Organization of FVA.

1. The value of functional-cost analysis in marketing activities.

2. FVA facilities.

1. The main stages of FVA.

2. Forms and procedures of FVA.

Practical lesson 6. Application of FVA in solving managerial problems

6.1. Formulation of functions

6.2. Formulation of the list of control questions

6.3.Definition of the functions of structural units

6.4.Determination of costs for functions

Practical lesson 7. Accounting for costs in the FVA system

7.1. The role of costs in production efficiency.

7.2. Evolution of cost management systems.

7.3. Methods of cost accounting and costing of products, works, services.

Practical lesson 8. Process organization of the enterprise when entering foreign markets

8.1.Discussion of the case "Transition to a process organization"

8.2. Building a tree of enterprise goals.

8.3. Transformation of business processes in the context of the target installation

Practical lesson 9. Calculation of costs and pricing in the FVA system.

9.1. Types of function costs.

9.2. Classification of costs in management accounting.

9.3. Cost calculation

9.4. Price calculation method

Pactical lesson 10. Organization of production processes in the FVA system

10.1. Determining the boundaries of the object under study

10.2. Definition of objectively necessary functions

10.3. Determination of actually implemented functions of the control system

10.4. Determining the significance of the functions of the control system in terms of implementation of the objectives of the production unit

10.5. Analysis of areas of disparities between the importance of functions and resources consumed

10.6. Development of measures to eliminate the identified disparities.

Practical lesson 11. Cost management.

11.1.Calculation of costs by place of origin

11.2.Classification of places of occurrence of expenses

11.3 System of normative cost accounting and budget planning.

11.4. Limitations of the system of normative cost accounting and flexible budget planning. indetermining the cost of production.

Practical lesson 12. Experience of cost management.

1. GPK system (Grenzplancostenrechnung). Principles of GPK.

2. Caterpillar system.

3. Modular control work (appendix 1)

Practical lesson 13. Application of non-financial indicators in FVA.

13.1. The role of non-financial indicators.

13.2. Application of FVA in benchmarking.

13. 3. Features of the Kaizen system.

13.4 Pseudo-profit centers.

Practical lesson 14. Classification of costs in the process of reorganization of business systems

14.1.Problems of cost formation and management

14.2.Scientific-based classification of costs

14.3.Cost management in the system of creating a "value chain"

Practical lesson 15-16. Differentiated activity management.

15.1. The concept of operation-oriented management.

15.2. Production aspects of management.

15.3. Product range and price formation.

15.4. Customer relations.

15.5. Design in product design.

15.6.Using the ABC method in FVA

Practical lesson 17. Application of FVA to calculate the cost of production

17.1. Calculation of the cost by the traditional method

17.2. Cost and profit analysis

17.3.Process approach. Business process costs

17.4. Calculation of the unit cost of production on the basis of ABC

Practical lesson 18. Credit (Appendix 2)

# Independent student work

The student's independent work includes preparation for classroom classes, development of methodological approaches to conducting FVA, preparation of cases, preparation of calculation and graphic work. 36 hours are allocated for independent work, including 10 hours for preparation of settlement and graphic work (appendix 3).

# Policy and control

**The policy of the discipline (educational component)**

**Attending classes**

Attendance at lectures, practical classes, as well as absence from them, is not evaluated. However, students are encouraged to attend classes because they teach theoretical material and develop the skills needed to complete a semester individual assignment. The grading system is focused on obtaining points for student activity, as well as performing tasks that are able to develop practical skills and abilities.

**Control measures missed**

The thematic task, which is submitted for inspection in violation of the deadline, is evaluated taking into account the penalty points.

**Procedure for appealing the results of control measures**

Students have the opportunity to raise any issue related to the control procedure and expect it to be addressed according to predefined procedures.

Students have the right to challenge the results of the control measures, but it is obligatory to explain, with which criterion they do not agree according to the assessment letter and / or comments.

**Calendar boundary control**

Intermediate attestation of students (hereinafter - attestation) is a calendar boundary control. The purpose of the certification is to improve the quality of student learning and monitor the implementation of the schedule of the educational process by students [[3]](#footnote-3).

|  |  |  |
| --- | --- | --- |
| Criterion | The first certification | The second certification |
| Term of certification | 8th week | 14th week |
| The condition for obtaining certifications is the current rating | ≥ 15 points | ≥ 30 points |

**Academic virtue**

The policy and principles of academic integrity are defined in Section 3 of the Code of Honor of the National Technical University of Ukraine " Igor Sikorsky Kyiv Polytechnic Institute". Read more: <https://kpi.ua/code>.

**Norms of ethical behavior**

Norms of ethical behavior of students and employees are defined in Section 2 of the Code of Honor of the National Technical University of Ukraine " Igor Sikorsky Kyiv Polytechnic Institute ". Read more: <https://kpi.ua/code>.

Inclusive education

The discipline "International Consulting" can be taught to most students with special educational needs, except for students with severe visual impairments who do not allow to perform tasks using personal computers, laptops and / or other technical means..

**Extracurricular activities**

Participation in conferences, forums, round tables, etc. is envisaged within the study of the discipline.

# Types of control and rating system for assessing learning outcomes (ALO)

|  |
| --- |
| **Evaluation system** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| № | Evaluation control measure | % | Weight score | Number | Total |
| 1. | Participation in discussions and additions at seminars | 15 | 3 | 5 | 15 |
| 2. | Execution of practical tasks | 25 | 5 | 5 | 25 |
| 3. | Modular control work | 10 | 10 | 1 | 10 |
| 4 | Calculation and graphic work | 10 | 10 | 1 | 10 |
| 5. | Test | 40 | 40 | 1 | 40 |
|  | Total | | | | 100 |

|  |
| --- |
| **Semester certification of students** |

|  |  |  |
| --- | --- | --- |
| Mandatory condition for admission to the test | | Criterion |
| 1 | Presentation of Calculation and graphic work | 6 ≤ RD ≤ 10 |
| 2 | Participation in discussions and additions to seminars | 9 ≤ RD ≤15 |
|  | Execution of practical tasks | 10 ≤ RD ≤25 |
| 3 | Modular control work | 6≤ RD ≤ 10 |
| 4 | Test | 30≤ RD ≤ 40 |
|  | Total | 60≤ RD ≤ 100 |

Table of translation of rating points to grades on a university scale [[4]](#footnote-4)

|  |  |
| --- | --- |
| Rating points, RD | Score for  university scale |
| 95 ≤ RD ≤ 100 | Perfectly |
| 85 ≤ RD ≤ 94 | Very good |
| 75 ≤ RD ≤ 84 | Fine |
| 65 ≤ RD ≤ 74 | Satisfactorily |
| 60 ≤ RD ≤ 64 | Enough |
| RD < 60 | Unsatisfactorily |
| Failure to comply with the conditions of admission | Not allowed |

# Additional information on the discipline (educational component)

* • list of issues submitted for semester control (Appendix 2);
* • certificates of distance or online courses on the subject can be credited with the prior consent of the teacher;

Appendix 1. Modular control work

1. Explain the role of functional-cost analysis as a means of improving production efficiency.

2. For what purposes is operation-oriented management used?

3. Test task

*1) To perform what main function requires a cost accounting system?*

*a) assessment of inventories and measurement of the cost of goods for the purpose of preparing financial statements;*

*b) determining the level of qualification of workers;*

*c) identification of the provision of necessary production resources.*

*2) The GPK approach was developed in:*

*a) Germany;*

*b) the United States;*

*c) Japan.*……..

Appendix 2. Questions to the test

1. The essence and main provisions of the FVA

2. The difference between FVA and traditional methods of cost accounting

3. History of FVA

4. The evolution of FVA

5. The concept of function and consumer value in FVA

6. Classification of functions and rules of their formulation

7. Approaches and principles in conducting FVA

8. The value of functional-cost analysis for the economic activity of the enterprise

9. FVA facilities

10. The main stages of functional-cost analysis

11. Forms and procedures of functional-cost analysis

12. The role of costs in production efficiency

13. Methods of cost accounting and costing of products, works, services

14. Evolution of cost management systems

15. Types of costs for functions

16. Classification of costs in management accounting

17. Cost calculation

18. Pricing methods

19. Calculation of costs by place of origin

20. Classification of places of occurrence of expenses

21. System of normative accounting of expenses and planning of budgets

22. Limitations of the system of normative accounting and flexible budget planning in determining the cost of production

23. The role of non-financial indicators

24. The use of FVA in benchmarking

25. Features of the Kaizen system

26. Pseudo-profit centers

27. The concept of operation-oriented management

28. Production aspects of management

29. Product range and price formation

30. Customer relations

31. Design and engineering of goods

**Appendix 3. Calculation and graphic workЗастосування ФВА у рішенні управлінських задач**

1) The company will produce several items. There is appropriate equipment and production space;

2) The program goal of the company - to become a leading company capable of achieving a leading position among competitors in the foreign market

Based on the program goal to formulate the main internal goals of this company.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

In accordance with the main objectives to formulate the main functions of the management system on the basis of control questions (table 1):

|  |  |
| --- | --- |
| Table *1* | |
| *Question* | *Content* |
| What? | What is being done? Do I need to do this? Why is this being done?  When could this not be done? |
| Where? | Where is it held? Is this venue the best?  Is it possible to do it just as well or better elsewhere? |
|  | ….. |

1. ***1) Define the functions and performers (table.***2).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Table*** *2* | | | | | |
| *Function* | *Performers* | | | | |
| *1* | *2* | *3* | *4* | *5* |
| F1. |  |  |  |  |  |
| F2. |  |  |  |  |  |
| F3. |  |  |  |  |  |

Define the functions of structural units (***table*** 3).

|  |  |  |
| --- | --- | --- |
| ***Table*** *3. Functions of structural units* | | |
| Function index | Function name | Function performer |
| F1.  F1.1.  F1.2 |  |  |
| F2.  F2.1.  F2.2 |  |  |

Identify the main functions of the unit (Table 4).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Table*** *4. Functions of the unit* | | | | |
| *Performed functions* | *Head* | *Specialist* | | *Engineer* |
|  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Note: O - basic functions; D - secondary functions.

***Determine the cost of performing functions (Table 5).***

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Table*** *5* | | | | | | | | | | | | |
| *Cost centers* | *Total* | | *Material costs* | | *Salary* | | *Reimbursement* | | *Depreciation of fixed assets* | | *Other expenses* | |
| *euro* | *%* | *euro* | *%* | *euro* | *%* | *euro* | *%* | *euro* | *%* | *euro* | *%* |
| Operational units |  |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |  |

Work program of the discipline (syllabus):

Compiled by Professor, Ph.D. Oksana Okhrimenko

Approved by the Department of International Economics (protocol № 11 from 26.05.2021)

Approved by the Methodical Commission of the faculty (protocol № 10 from 15.06.2021)

1. В полях Галузь знань/Спеціальність/Освітня програма:

   Для дисциплін професійно-практичної підготовки зазначається інформація відповідно до навчального плану.

   Для соціально-гуманітарних дисциплін вказується перелік галузей, спеціальностей, або «для всіх». [↑](#footnote-ref-1)
2. Електронна пошта викладача або інші контакти для зворотного зв’язку, можливо зазначити прийомні години або години для комунікації у разі зазначення контактних телефонів. Для силабусу дисципліни, яку викладає багато викладачів (наприклад, історія, філософія тощо) можна зазначити сторінку сайту де представлено контактну інформацію викладачів для відповідних груп, факультетів, інститутів. [↑](#footnote-ref-2)
3. Рейтингові системи оцінювання результатів навчання: Рекомендації до розроблення і застосування. Київ: КПІ ім. Ігоря Сікорського, 2018. 20 с. [↑](#footnote-ref-3)
4. Оцінювання результатів навчання здійснюється за рейтинговою системою оцінювання відповідно до рекомендацій Методичної ради КПІ ім. Ігоря Сікорського , ухвалених протоколом №7 від 29.03.2018 року. [↑](#footnote-ref-4)