Ministry of Education and Science of Ukraine
Sumy National Agrarian University
Faculty of veterinary medicine
Department of internal medicine, pharmacy and biochemistry

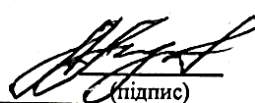**Work program (syllabus) of the educational component**

<u>Veterinary business and entrepreneurship</u>
(name and status (**required**)

Implemented within the educational program **Veterinary Medicine**
 Specialty: **211 " Veterinary Medicine"**
Second (Master's) Level of higher education

Sumy – 2024

Developer: _____ Valentyna NECHYPORENKO, Candidate of Agricultural Sciences, Associate Professor of the Department of internal medicine, pharmacy and biochemistry

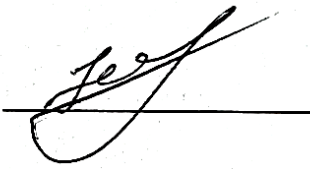| Considered, approved and approved at the meeting of the Department of internal medicine, pharmacy and biochemistry (name of department)	Protocol _____03.06.2022_____ № __15
	Head department _____ Oleksii MUSIENKO (підпис) (прізвище, ініціали)

Agreed:

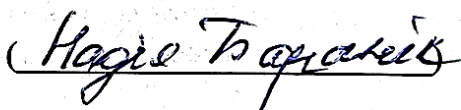Guarantor of the educational program_____ **Roman PETROV**

Dean of the faculty where the educational program is implemented_____ **Oleksandr NECHYPORENKO**

Review of the work program _____

Methodist of the Education Quality Department, licensing and accreditation _____ (Надія Баранець

Registered in the electronic database: date: _____07. 08_____ 2024 p.

	1. GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT	
1.	Name OK	Veterinary business and entrepreneurship
2.	Faculty/ department	Veterinary medicine \ Internal medicine, pharmacy and biochemistry
3.	Status OK	Obligatory
4.	Program/Specialty (programs), which is a component of OK	211 " Veterinary Medicine"
5.	Level HPK	Second (Master's) Level of higher education
6.	Semester and duration of study	1-15 weeks, 1 semester
7.	Number of credits ЄКТС	5
8.	The total number of hours and their distribution	Contact work (class) — Lectures / Practical/seminar 88 — Individual work 62
9.	The language of learning	Ukrainian
10.	Teacher/Coordinator of OK	Valentyna NECHYPORENKO
11.	Contact Information	ne_va@ukr.net
12.	General description of the educational component	The educational component is related to the general goals of the EP and covers the aspects of the formation of deep theoretical knowledge of a modern veterinarian on the creation and management of veterinary business structures in accordance with the current legislative and regulatory documents; preparation of veterinary, organizational and financial documents necessary for the establishment and effective functioning of commercial veterinary organizations; study of the manifestation of objective economic laws of the market of veterinary goods and services in the conditions of production and use of veterinary goods and the provision of paid services; formation of students' new managerial thinking, taking into account the modern understanding of the market and competition; management and ensuring the effective operation of organizations.
13.	The purpose of the educational component	to form a student's system competencies in: legislative framework on veterinary medicine, fundamentals of veterinary activity management, having mastered: organizational the structure of the State Tax Service and veterinary medicine in Ukraine, the organization of activities veterinary service, funding and material and technical support of the service, veterinary record keeping, etc., Having mastered the methodology of mathematical calculations, to prove feasibility of carrying out veterinary measures, both preventive and forced direction.
14.	Prerequisites for studying OK, connection with other educational components of OK	1. The educational component is based on courses such as: Information Technologies in Veterinary Medicine, 2. The educational component is the basis for Veterinary Marketing, Veterinary International and National Legislation
15.	Policy of academic integrity	Students must strictly adhere to the requirements of the SNAU Academic Integrity Regulations. It is inadmissible to write off during tests and exams. When using information, a reference must be made to the used source. All completed independent works (abstracts, individual assignments) are checked for plagiarism and are accepted for defense in compliance with the requirements for references (no more than 40% of textual borrowings are

2. LEARNING RESULTS UNDER THE EDUCATIONAL COMPONENT AND THEIR RELATIONSHIP WITH PROGRAM LEARNING OUTCOMES

Study results for OK: After studying the educational component, the student is expected to be able to..."	Program learning outcomes, which are aimed at achieving the OK (indicate the number according to the numbering given in the OP)			How RND is estimated
	PRN18. To have standard methods of analysis and evaluation of development indicators objects of management in accordance with the principles of sustainable development.	PRN 6. Demonstrate the skills of searching, collecting and analyzing information, calculation indicators for justifying management decisions.	PRN 11. Demonstrate the skills of situation analysis and communication in different spheres of activity of the organization.	
DRN 1. Collect the necessary statistical and economic information, economic and management indicators, based on the use of the necessary analytical and methodical statistical tools.	*	*	*	Reports based on abstracts. Testing, evaluation. Solving situational problems. Presentation and defense of research results
DRN 2. To analyze market phenomena and processes based on the application of fundamental principles, theoretical knowledge and applied skills in the implementation of economic activity, the formation of data banks in the field management based on the use of statistical indicators and methods.	*		*	
DRN 3. Identify dependencies and interactions between subjects of market relations based on the use of statistical and		*	*	

economic methods to substantiate management decisions.					

3. CONTENT OF THE EDUCATIONAL COMPONENT (CURRICULUM PROGRAM)

Theme List of issues to be considered within the topic	Distribution within the total time budget (Daily)				Recommended Books [1]
	Auditory work			Individual work	
	L	P			
1. The method of statistics. Plan 1. Understanding Statistics 2. Subject Statistics 3. Object Statistics	4	4		5	Main sources: 1-5 Other sources: 1-5 Methodological support: 1; 2
Theme 2. Statistical observation. Plan 1. The concept of statistical observation 2. forms of statistical observation 3. Types and methods of observation	4	4		5	Main sources: 1-5 Other sources: 1-5 Methodological support: 1; 2
Theme 3. Summary and grouping of statistical dates. Plan 1. The concept of statistical summaries. Types of construction 2. Statistical grouping. Types grouping 3. Methods of analytical grouping	4	4		10	Main sources: 1-5 Other sources: 1-5 Methodological support: 1; 2
Theme 4. Absolute and relative values. Plan 1. Absolute values, concepts and types 2. Relative values, concepts of nature and forms of expression 3. Types of relative values and methods of their calculation	4	4		10	Main sources: 1-5 Other sources: 1-5 Methodological support: 1; 2
Theme 5. The average values. **Indicators of the variations** Plan 1. The concept of average values and their significance in statistics 2. Types of averages and methods of calculation. 3.The concept of variation and variation indicators	4	4		10	Main sources: 1-5 Other sources: 1-5 Methodological support: 1; 2
Theme 6. Selective observation.	4	4		10	Main sources: 1-5 Other sources: 1-5

[1]Конкретне джерело із основної чи додатково рекомендованої літератури

Plan 1. Selective observation causes and conditions of use. 2. Calculate the average and marginal errors and required number of samples.					Methodological support: 1; 2
Theme 7. Time series. Plan 1. The concept of time series, their elements and rules of construction 2. Statistical characteristics series. 3.Average values of time series 4.The basic techniques of time series analysis	4	4		10	Main sources: 1-5 Other sources: 1-5 Methodological support: 1; 2
Theme 9. Indexes. Plan 1. The concept of statistical indices and objectives of the index method of analysis, their classification according to various criteria. 2.Forms codes and methods of their calculation 3.Types index 4. Indexes averages	4	4		10	Main sources: 1-5 Other sources: 1-5 Methodological support: 1; 2
Theme 11. Statistical methods for measuring connections. Plan 1. Types linkages between phenomena 2. Correlation analysis 3. Pair (simple) and its correlation characteristics Curvilinear correlation and its types 4. Multiple correlation and its characteristics	4	4		10	Main sources: 1-5 Other sources: 1-5 Methodological support: 1; 2
Theme 12. Economic analysis in market conditions. Plan 1.Analytical research method and its features. 2.Method of economic analysis. Methodology of economic analysis. 3.General and partial methods of economic analysis. 4. Elements of the methodology of economic analysis. 5. Stages economic analysis. 6.Techniques of factor analysis.	4	4		10	Main sources: 1- Other sources: 1- Methodological support: 1; 2
Theme 10. Methods and techniques of economic analysis. The essence, forms and use of comparisons in economic analysis. The essence of average and relative values and their application in economic analysis. Acceptance of grouping of indicators and its types. Use of dynamic series and graphic method in analysis. The essence and use of the	4	4		10	Main sources: 1- Other sources: 1- Methodological support: 1; 2

balance sheet method in analysis. Essence and field of application methods of elimination.					
Theme 11. Methods of deterministic factor analysis. **1.** Methods of elementary mathematics. 2.Methods of higher mathematics: differential and integral calculus, probability theory, methods analytical geometry. 2.Methods of mathematical statistics: correlation analysis, regression, variation series, distribution laws, sampling method, dispersion method, component analysis. 3. Econometric methods: matrix balance models, cost-output analysis method. 4.Methods of mathematical programming: linear, block, non-linear and dynamic programming. 5.Operations research methods: inventory management; calculations of optimal equipment replacement; game theory; theory mass service; grid planning.	6	4		10	Main sources: 1-5 Other sources: 1-5 Methodological support: 1; 2
Всього	46	44		60	

4. TEACHING AND LEARNING METHODS

DRN	**Teaching methods** (work to be carried out by the teacher during classroom classes, consultations)	**Learning methods** (what types of learning activities should be performed by the student independently)
DRN 1.	Verbal methods: lecture, explanation, educational discussion Visual methods: demonstration Practical methods: exercises, practical works Method of tutoring*	Method of ready knowledge Method of formation of abilities and skills Research method Methods of checking and evaluating knowledge, abilities and skills
DRN 2.	Verbal methods: lecture, explanation, educational discussion Visual methods: demonstration Practical methods: exercises, practical works Method of tutoring*	Method of ready knowledge Method of formation of abilities and skills Research method Methods of checking and evaluating knowledge, abilities and skills
DRN 3.	Verbal methods: lecture, explanation, educational discussion Visual methods: demonstration Practical methods: exercises, practical works Method of tutoring*	Method of ready knowledge Method of formation of abilities and skills Research method Methods of checking and evaluating knowledge, abilities and skills

* Subject to changes in the learning process

5. EVALUATION BY THE EDUCATIONAL COMPONENT

5.1**. Diagnostic assessment (specified as necessary)**

5.2. Summative assessment

To assess the expected learning outcomes, it is provided

№	Methods of summative evaluation	Points / Weight in the overall evaluation	Date of compilation
1.	Final evaluation by topics	20 Points /20%	To the end 8; 15 weeks
2.	Completing tasks in the workbook in practical classes	20 Points /20%	To the end 8 weeks
3.	Analysis of texts (abstract)	10 Points /10%	До кінця 8 weeks
4.	Individual task (writing a term paper)	20 Points 20%	To the end 13 weeks
5.	Exam	30 Points /30%	

5.1.1. Evaluation criteria

Component	*Unsatisfactory*	*Satisfactory*	*Good*	*Excellent*
Final evaluation by topics	*<12 Points*	*12-15 Points*	*15-18 Points*	*20 Points*
	Task requirements not met	Most of the requirements are met, but individual components are missing or insufficiently disclosed, there is no analysis of other approaches to the issue	All requirements of the task have been fulfilled	All the requirements of the task were met, creativity, thoughtfulness was demonstrated, and an own solution to the problem was proposed
	<6 Points	*6 -8 Points*	*8-9 Points*	*9-10 Points*
Completing tasks in the workbook in practical classes	Requirements regarding the task is not done	Most requirements done but individual components missing or not enough to reveal no analysis other approaches to question	All done task requirements	All done task requirements, demonstrated creativity, reflection, suggested own solution problems
	<12 Points	*12-15*	*15-18 Points*	*18 -20 Points*
Analysis of texts (abstract)	Requirements regarding the task is not done	Most requirements done but individual components missing or not enough to reveal no analysis other approaches to question	All done task requirements	All done task requirements, demonstrated creativity, reflection, suggested own solution problems
	<12 Points	*12-15*	*15-18 Points*	*18 -20 Points*
Individual task (writing a Cours paper)	Requirements regarding the task is not done	Most requirements done but individual components missing or not enough to reveal no analysis other	All done task requirements	Виконано усі All done task requirements, demonstrated creativity, reflection, suggested own

		approaches to question			solution problems
Exam	*<18 Points*	*18-23*	*23-27 Points*	*27-30 Points*
	Requirements regarding the task is not done	*Most requirements done but individual components missing or not enough to reveal no analysis other approaches to question*	*The student is able to recall and reproduce knowledge directly presented material within the scope of the OK with some evidence of wider research*	*The student is able to reproduce the knowledge obtained outside the limits of the directly taught material within the limits of the OK*

5.2.Formative assessment:

To assess the current progress in learning and understand the directions for further improvement is provided

№	Elements of formative assessment	Date
1.	Knowledge testing after studying topics 1; 2; 3; 4; 5; 6;7; 8;9	3; 5; 7; 9; 11; 14 weeks
2.	Mastering skills and abilities in solving situational tasks	1-8; 9-15 weeks
3.	Preparation of the abstract and its submission for passing plagiarism	5- 6 weeks
4.	Oral presentation based on the abstract	7 – 8 weeks
5.	Writing a term paper and submitting it for plagiarism testing	11 - 12
6.	Presentation of the results of scientific research	13 - 14
7.	Verbal feedback from the teacher and students after the report on the abstract and the presentation of the results of the scientific research	Within a week after the defense
8.	Self-assessment and mutual assessment of answers, defenses of research results	Within a week after answers, reports and defenses of research results

6.EDUCATIONAL RESOURCES (LITERATURE)

6.1. Main sources

1.Themes in Economic Analysis .Theory, policy and measurement. Edited By Subrata Guha, Rajendra Prasad Kundu, S. Subramanian. Copyright Year 2016. URL: https://www.google.com/url?

2.	S.	Boslaugh,	P.A.	Watters.	Statistics	in	a	Nutshell Sebastopol: O'Reilly, 2018. URL: https://www.google.com/url?

3. . David S. Moore, P. McCABEBRUCE A. CRAIG .Introduction to the Practice of Statistics. SIXTH EDITION.	Purdue	University.	H.	Freeman	and	CompanyNew	York.-2009.	URL: https://www.researchgate.net/profile/Rashmi_Parihar2/publication/325682747_David_S_Moore_George_ P_McCabe_Bruce_Craig_Inb-

4. David S. Moore, William I. Notz. Statistics Concepts and Controversies. SEVENTH EDITION. 2009 by W. H. Freeman and Company. URL. http://docshare01.docshare.tips/files/24753/247538667.pdf

5.	J.	Tabak.	Probability	and	Statistics.	The	Science	of	Uncertainty Facts	On	File,	2011.	URL: https://kisslibrary.net/book/3D5925EB6B54BC3FDEBB?utm_source=ps14&utm_medium=boicidore.ga &utm_campaign=fnom&x=549909

6.2. Other sources

1.	A.	Rice	.	Mathematical	Statistics	and	Data	Analysis Brooks/Cole,	Belmont	2017,	3rd	edition	URL https://epdf.pub/mathematical-statistics-and-data-analysis65096.html

2.	Average	values.	Mean	and	average	quadratic	deviation.- http://intranet.tdmu.edu.ua/data/kafedra/internal/distance/classes_stud/English/1course/Medical%20statist ics/06.%20Average%20values.

3.Relative	values.	URL: http://intranet.tdmu.edu.ua/data/kafedra/internal/socmedic/lectures_stud/en/nurse/bsn	(4year program)/elementary statistics/2/03.

4. Organization of statistical research. Composition of the plan and program of observation. URL:
http://intranet.tdmu.edu.ua/data/kafedra/internal/distance/classes_stud/English/1course/Medical%20statistics/03.%20Organization%20of%20statistical%20research.htm

5. Time Series Analysis. URL: http://www.abs.gov.au/websitedbs/D3310114.nsf/home/Time+Series+Analysis:+The+Basics. - http://www.statsoft.com/Textbook/Time-Series-Analysis

6. Development of Economic Analysis. By Ingrid H. Rima. Copyright Year 2000 . URL: https://www.routledge.com/

6.3. Methodical maintenance

1. Onopriienko I.M. Statistics. Students book. for students 2 course direction training 6.030601 "Management"- Sumy.-2017 -44p.
2. Onopriienko I.M Statistics. Abstract of Lectures. for students 2 course direction training 6.030601 "Management" Sumy . 2017. 90p.
3. Cours «Statistica» in system Moodle. URL: https://cdn.snau.edu.ua/moodle/course/view.php?id=316

6.4.Інформаційні ресурси

1. Official Online - Page http://www.ukrstat.gov.ua/

2. Official Online - Page Yevtoreyskoho Community Statistical Office (Statistical Office of the European Communities - EUROSTAT) http://epp.eurostat.cec.eu.int/portal/page?_

3. http://pidruchniki.ws/
4. http://bookbrains.com/
5. http://bibliograph.com.ua/deyatelnost-predpriyatiya-2/index.htm
6. http://culonline.com.ua/Books/analiz_gosp_dijaln_Kosova.pdf

6.5. Програмне забезпечення

Using the standard Microsoft Excel package

Рецензія на робочу програму (силабус)

Параметр, за яким оцінюється робоча програма (силабус) освітнього компонента гарантом або членом проєктної групи	Так	Ні	Коментар
Результати навчання за освітнім компонентом (ДРН) відповідають НРК	+		
Результати навчання за освітнім компонентом (ДРН) відповідають передбаченим ПРН (для обов'язкових ОК)	+		
Результати навчання за освітнім компонентом дають можливість виміряти та оцінити рівень їх досягнення	+		

Член проектної групи ОП _ _____

(назва)   (ПІБ)   (підпис)

Параметр, за яким оцінюється робоча програма (силабус) освітнього компонента викладачем відповідної кафедри	Так	Ні	Коментар
Загальна інформація про освітній компонент є достатньою	+		
Результати навчання за освітнім компонентом (ДРН) відповідають НРК	+		
Результати навчання за освітнім компонентом (ДРН) дають можливість виміряти та оцінити рівень їх досягнення	+		
Результати навчання (ДРН) стосуються компетентностей студентів, а не змісту дисципліни (містять знання, уміння, навички, а не теми навчальної програми дисципліни)	+		
Зміст ОК сформовано відповідно до структурно-логічної схеми	+		
Навчальна активність (методи викладання та навчання) дає змогу студентам досягти очікуваних результатів навчання (ДРН)	+		
Освітній компонент передбачає навчання через дослідження, що є доцільним та достатнім для відповідного рівня вищої освіти	+		
Стратегія оцінювання в межах освітнього компонента відповідає політиці Університету/факультету	+		
Передбачені методи оцінювання дозволяють оцінити ступінь досягнення результатів навчання за освітнім компонентом	+		
Навантаження студентів є адекватним обсягу освітнього компонента	+		
Рекомендовані навчальні ресурси є достатніми для досягнення результатів навчання (ДРН)	+		
Література є актуальною	+		

Перелік навчальних ресурсів містить необхідні для досягнення ДРН програмні продукти	+		

Рецензент (викладач кафедри) <u>маркетингу та логістики</u>   <u>доц. Макарова В.В.</u>   <u>   </u>

                                      (назва)   (посада, ПІБ)   (підпис)