Ministry of Education and Science of Ukraine
Sumy National Agrarian University
Faculty of Economics and Management
Department of Marketing and Logistics

Work program (syllabus) of the educational component

Basics of the scientific research

(compulsory)

Implemented within the educational program **Management**
in the specialty 073 "Management"
at the **1st** (**bachelor's**) level of higher education

Sumy – 2025

Developer: _____ **Valentina MUSHTY,** Ph.D., Associate Professor,
Department *of Marketing and Logistics*
(signature) (First name LAST NAME) (academic degree and title, position)

Reviewed, approved, and adopted at a meeting of the Department of Marketing and Logistics (name of department)	№ 18 from 16.06.2025
	Head of the department _____ (signature) Natalia MAKARENKO (First name, last name)

Approved:

Approved by:

Guarantor of the educational program _____ (signature) Nataliya STOYANETS (last name, first name)

Dean of the Faculty _____ (signature) Svitlana LUKASH (last name, first name)

Syllabus review (attached) is provided by: _____ (signature) Victoriya TKACHENKO (last name, first name)

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Registered in electronic data base: 06.08.2024 (date)

1. GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT

1.	The name is EC	Fundamentals of scientific research			
2	Faculty/department	Economics and Management			
3	The status is EC	Mandatory			
4	Program/Specialty (programs) of which the OK for (to be filled in for mandatory OKs) is a component	Educational and professional program "Management". First level of higher education in the specialty 073 Management field of knowledge 07 Management and administration Qualification: Bachelor of Management			
5	NRK level	6			
6	Semester and duration of study Full-time/part-time	3rd/3rd, 1 – 15/1-18 week			
7	Number of ECTS credits	5			
8.	Total hours and their distribution Full-time/part-time	Contact work (classes)			Independent work
		Lectures	Practical/seminar	Laboratory	
		30	30		90
9	Language of education	English			
10	Teacher/Educational Component Coordinator	Doctor of Economics, associate professor Mushtai V.A.			
11	Contact information	audio 214e; phone: +38066182023; vamushtai@gmail.com			
12	General description of the educational component	Aimed at improving skills in searching and processing scientific information, choosing research methods, and accurately formulating the problem, goal, objectives, object, and subject of research.			
13	Purpose of the educational component	Formation of a system of knowledge on methodology, theory of method and research process, methodological support of scientific research activities, formation of the ability to organize scientific research of a certain problem using the entire complex of traditional scientific research methods.			
14	Prerequisites for studying OK, connection with other educational components of OP	1. The educational component is based on the study of OK: Ukrainian language and academic writing, statistics and theory of economic analysis. 2. The educational component is the basis for the study of OK: management, operations management			
15	Academic Integrity Policy	Students must strictly adhere to the requirements of the "Regulations on Academic Integrity of the SNAU". Plagiarism is unacceptable during tests and exams. When using various media, a reference must be made to the source used. All completed independent work (abstracts, individual assignments) are checked for plagiarism and are allowed to be defended if the requirements for references are met (no more than 40% of text borrowing is allowed).			
	Reference to the course in MOODLE	https://cdn.snau.edu.ua/moodle/course/view.php?id=4675			
	Keywords	Science, research, information, information support, methods, methodology, statistical data processing, research results, research effectiveness, academic integrity.			

2. GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENTLEARNING OUTCOMES FOR THE EDUCATIONAL COMPONENT AND THEIR RELATIONSHIP TO THE PROGRAMME LEARNING OUTCOMES

Learning outcomes for the educational component: After studying the educational component, the student is expected to be able to...	Program learning outcomes that the EC is aimed at achieving (indicate the number according to the numbering given in the OP)[1]			How the PLO is assessed
	PLO_6	PLO_{16}	PLO_{17}	
DRN 1. Distinguish between fundamental and applied research, identify the object of research, and correctly formulate its content and subject matter		x	x	Theoretical (oral/written) examination (questions/tests) (20 points)
DRN 2. Search for information in various fields and perform statistical processing and evaluation of scientific research data	x		x	Presentation and defense of research results (individual assignment – writing a thesis) (15 points)
DRN 3. Practically implement the acquired methodological foundations of scientific research	x			Solving situational problems (10 points)
DRN 4. Draw up a plan for scientific work, taking into account the literary form of presentation of scientific research, and implement it in accordance with the general requirements for the content of the main components of scientific research, complying with the requirements for publication	x	x	x	Text analysis (reports based on abstracts) (15 points) Multiple choice tests (10 points)

PLO 6 Demonstrate skills in searching for, collecting, and analyzing information, calculating indicators to justify management decisions.
PLO 16 Demonstrate skills in independent work, flexible thinking, openness to new knowledge, and be critical and self-critical.
PLO 17 Conduct research individually and/or in a group under the guidance of a leader

[1] Must correspond to the Matrix for ensuring program learning outcomes with the relevant components of the educational program, specified for the mandatory educational components of OP I and II levels, for all (mandatory and elective EC) OP III

3. CONTENT OF THE EDUCATIONAL COMPONENT (ACADEMIC DISCIPLINE PROGRAM)

Topic. List of issues to be covered within the topic	Distribution within the overall time budget (full-time)			Recommended reading[2]
	Classroom work		Independent work	
	Lecture	Practice		
Topic 1. *Science and scientific research in the modern world* 1. The essence of science as a social category 2. The concept of scientific research and its classification 3. The object and subject of scientific research 4. The results of scientific research 5. Organization of scientific activity in Ukraine	4	4	10	Main sources: 1; 2; 3; 4 5 Other sources: 1; 3; 4; 5; 6; 7; 8; 10; 11, 12. Methodological support: 1, 2, 3, 4
Topic 2. *Structure of scientific research and content of its components* 1. Choosing a topic for scientific research 2. Literary form of presentation of scientific research 3. General structure and content of the main part and introduction of scientific research 4. Content of the main part of scientific research 5. Content of the conclusions of scientific research	6/1	4/1	14/16	Main sources: 1;3;4. Other sources: 1;3;6;8 Methodological support: 1,2,3;4.
Topic 3. *Information support for scientific research* 1. Information as a factor in scientific potential 2. The essence and properties of information 3. Classification of information and its importance in scientific research 4. Satisfying the information needs of consumers 5. Searching for scientific information	4/2	4/2	14/16	Main sources: 2;3;4;5 Other sources: 1; 2; 5; 6; 8; 9, 10, 11, 12. Methodological support: 1,2,3,4
Topic 4. *Methods of scientific*	4/2	4/2	14/18	Main sources: 1;2;3;4;5

[2]Specific source from the main or additionally recommended literature

research 1. The essence of methodology and its components 2. Empirical research methods 3. Sociological method in scientific research 4. Method of expert assessments 5. Theoretical research methods 6. General logical research methods 7. The essence of the monographic research method and its connection with the benchmarking method				Other sources 1;2;3;4;5;6;7;10. Methodological support: 1,2,3,4
Topic 5. *Statistical processing and evaluation of scientific research data* 1. Method of statistical grouping 2. Index method in scientific research 3. Dynamic series and their application in the analysis and forecasting of phenomena and processes 4. Use of correlation models in scientific research	4/1	6/1	12/16	Main sources: 1;5. Other sources: 1;7;10; 11;12. Methodological support: 1,2,3
Topic 6. *Formatting the results of scientific research* 1. General requirements and printing of scientific works 2. Formatting scientific publications: scientific articles, abstracts	4/1	4/1	10/16	Main sources: 1;4;5. Other sources: 1;3;8. Methodological support: 1,2,3
Topic 7. *Effectiveness of research work.* 1. Results of research and development work: general characteristics 2. Effectiveness of research work: concept and measurement 3. Measuring the effectiveness of scientists and research teams	2/1	2/1	8/16	Main sources: 2;4. Other sources: 7;10 Methodological support: 1,2,3

Topic 8. *Scientific and methodological culture as a factor in improving the effectiveness of scientific activity.* 2. The concept of scientific and methodological culture. The specifics of its formation and mechanisms of implementation 3. Pluralism of approaches and means of improving the effectiveness of scientific activity 4. The concept of scientific community and scientific communication. 5. The concept of academic integrity, main directions and prospects for its implementation	2/1	2/1	8/16	Main sources: 1; 3; 4. Other sources: 2. Methodological support: 1,2,3
Total	30	30	90	

4. TEACHING AND TRAINING METHODS

DRN	**Teaching methods** (work to be done by the teacher during classroom sessions, consultations)	**Learning methods** (what types of learning activities should be performed by the student independently)
DRN 1. Distinguish between fundamental and applied research, determine the object of research, and correctly formulate its content and subject	Verbal methods: lecture, explanation, educational discussion	Ready-made knowledge method
	Visual methods: demonstration	Method of forming skills and abilities
	Practical methods: exercises, practical work	Research method, partial search methods
	Tutorial method*	Methods of testing and assessing knowledge, skills, and abilities
DRN 2. Search for information in various fields and perform statistical processing and evaluation of scientific research data	Verbal methods: lectures, explanations, educational discussions	Ready-made knowledge method
	Visual methods: demonstration	Method of forming skills and abilities
	Practical methods: exercises, practical work	Research method, partial search methods
	Tutorial method*	Methods of testing and assessing knowledge, skills, and abilities
DRN 3. Practically implement the acquired methodological foundations of scientific research	Verbal methods: lecture, explanation, educational discussion	Ready-made knowledge method
	Visual methods: demonstration	Method of forming skills and abilities

	Practical methods: exercises, practical work	Research method, partial search methods
	Tutorial teaching method*	Methods of testing and evaluating knowledge, skills, and abilities
DRN 4. Draw up a plan for scientific work taking into account the literary form of presentation of scientific research and implement it in accordance with the general requirements for the content of the main components of scientific research in compliance with the requirements for publication	Verbal methods: lectures, explanations, educational discussions	Ready-made knowledge method
	Visual methods: demonstration	Method of forming skills and abilities
	Practical methods: exercises, practical work	Research method, partial search methods
	Tutorial method*	Methods of testing and assessing knowledge, skills, and abilities

*Subject to changes in the learning process

5.ASSESSMENT BY EDUCATIONAL COMPONENT

5.1 Summative assessment

5.1.1 The following methods are provided for assessing the expected learning outcomes

No	Methods of summative assessment	Points / Weight in the overall assessment	Date of completion
1.	Theoretical (oral/written) examination (questions/tests)	20 points/20%	By the end of 7; 15 weeks
2.	Solving situational problems	10 points/10%	By the end of 7; 15 weeks
3.	Presentation and defense of research results (individual assignment - writing a thesis)	15 points/15%	By the end of week 7
4.	Text analysis (reports based on abstracts)	15 points/15%	Throughout weeks 13-14
5.	Multiple choice tests	10 points/10%	Up to week 14
	TOTAL	70 points/70%	Week 15
5	Final assessment: completion of a comprehensive task covering all educational components - theoretical questions - tests	30 points /30%	according to the approved schedule
	Total	100 points /100%	

5.1.2 Assessment criteria

Component	**Unsatisfactory**	**Satisfactory**	**Good**	**Excellent**
Final assessment by topic	*<12 points*	*12*	*15-18 points*	*18-20*
	Requirements for the assignment not met	*The student demonstrates some understanding of specific subject theories,*	*The student demonstrates an understanding of specific theories, paradigms,*	*The student demonstrates a deep understanding of specific theories,*

		paradigms, concepts, and principles	*concepts, and principles, as well as an understanding of more specialized areas*	*paradigms, concepts, and principles, as well as a deep understanding of more specialized areas*
Solving problems on topics	*<6 points*	*6-8*	*8-9 points*	*9-10*
	Requirements for the task not fulfilled	*The student is able to solve basic numerical problems using appropriate methods*	*The student is able to solve a series of numerical problems using appropriate methods*	*The student is able to solve complex numerical and situational problems using appropriate methods.*
Individual assignment (writing a thesis)	*<12 points*	*12*	*15-18*	*18-20*
	Task requirements not met	*Most requirements have been fulfilled, but some components are missing or insufficiently developed, and there is no analysis of other approaches to the issue*	*All requirements of the task have been fulfilled*	*All requirements of the task have been fulfilled, creativity and thoughtfulness have been demonstrated, and a solution to the problem has been proposed*
Text analysis (abstract)	*<12 points*	*12-15*	*15-18*	*18-20*
	Requirements task not completed	*The student is able to compare, summarize, and analyze information*	*The student is able to analyze, synthesize, summarize, and evaluate information*	*The student is able to search for, analyze, synthesize, summarize, and critically evaluate information*
Exam	*<18 points*	*18*	*23-27*	*27-30*
	Requirements for the task not fulfilled	*The student is able to recall and reproduce knowledge based on the material directly presented within the scope of the OK*	*The student is able to recall and reproduce knowledge of the material directly presented within the scope of the OK with some evidence of broader research*	*The student is able to reproduce knowledge obtained outside the scope of the material directly presented within the scope of the OK*

5.2. Formative assessment:

To assess current progress in learning and understand areas for further improvement, the following is provided

No	**Elements of formative assessment**	**Date**
1	Testing of knowledge after studying topics 1; 2; 3; 4; 5;	3; 5; 7; 9; 11; 12, 14 weeks

	6, 7, 8	
2.	Mastering skills and abilities in solving situational tasks	during weeks 1-7; 8-15
5.	Writing a thesis and submitting it for plagiarism detection	5-6 weeks
6.	Presentation of research results	Weeks 6–7
7	Preparation of an abstract and its submission for plagiarism detection	11
8	Oral presentation based on the abstract	13
9	Oral feedback from the teacher while working on the abstract (thesis) during classes	2-12 weeks
10	Verbal feedback from the teacher and students after the report on the abstract and presentation of the research results	During the week after the defense
11	Self-assessment and mutual assessment of answers, defenses of scientific research results	During the week after answers, reports, and defenses of research results

6. TEACHING RESOURCES (LITERATURE)

6.1 Main sources

1. Lyshenko M.O., Danko Yu.I., Mushtay V.A. Methodology of scientific research and maintaining the principles of academic integrity. Tutorial. Sumy National Agrarian University. Sumy: SNAU, 2022. 170 p.
2. Dobronravova I.S., Rudenko O.V., Sydorenko L.I. Methodology and Organization of Scientific Research: Textbook (Part 2). Kyiv: VPC "Kyiv University," 2018. 607 p. URL: http://www.philsci.univ.kiev.ua/biblio/Methodol.pdf
3. Vazhynskyi, S. E., Shcherbak, T. I. Methodology and organization of scientific research: Textbook. Sumy: Sumy State Pedagogical University named after A. S. Makarenko, 2016. 260 p. URL: https://nuczu.edu.ua/sciencearchive/Articles/gornostal/vajinskii%20posibnyk.pdf
4. Medvid V. Yu., Danko Yu. I., Koblianska I. I. Methodology and organization of scientific research (in structural-logical diagrams and tables): textbook. Sumy: SNAU, 2020. 220 p. URL:https://agro.snau.edu.ua/wp-content/uploads/2020/11/20201113_100711.pdf
5. Yurchenko S.O., Yurchenko O.E. Fundamentals of Scientific Research: A Textbook for Students Majoring in Tourism, Hotel and Restaurant Business, International Relations, Public Communications, and Regional Studies. Kharkiv: V.N. Karazin Kharkiv National University, 2017. 204 p. URL: https://www.univer.kharkov.ua/images/redactor/news/2017-12-12/Yurchenko.pdf

6.2. Other sources

1. Andriychuk V.G. Fundamentals of Scientific Research in Agribusiness: Textbook. Kyiv: KNEU, 2018. 491 p.
2. Antonyuk V.S., Polonsky L.G., Averchenkov V.I., Malakhov Yu.A. Methodology of scientific research: textbook. Kyiv: NTUU "KPI". 2015. 276 p. URL: http://www.ooep.kpi.ua/downloads/disc/anton.pdf
3. Goncharuk T.V. Fundamentals of Scientific Research: Textbook. Ternopil, 2014. 272 p. URL: http://dspace.wunu.edu.ua/bitstream/316497/4874/3/ПОСІБНИК%20ОНД%20друк.pdf
4. Kalamet S.V., Ivanov S.I., Pivnyak Yu.V. Methodology of Scientific Research: Textbook. Dnipropetrovsk: Makovetsky Publishing House, 2015. 191 p. URL: https://pgasa.dp.ua/wp-content/uploads/2017/10/3-1.pdf

5. Kyrylenko O.P., Pysmennyi V.V. Fundamentals of scientific research in diagrams and tables: textbook. Ternopil: TNEU, 2013. 228 p. URL:http://dspace.wunu.edu.ua/bitstream/316497/12251/1/Основи%20наукових%20досліджень%20(2013).pdf
6. Konverskyi, A.E. Fundamentals of Methodology and Organization of Scientific Research: Textbook for Students, Cadets, Graduate Students, and Adjuncts. Kyiv: Center for Educational Literature, 2010. 352 p. URL:https://biology.univ.kiev.ua/images/stories/Upload/Kafedry/Biofizyky/2014/konversky_osn_metod_ta_org_nayk_dosl.pdf
7. Lyshenko M.O., Mushtay V.A., Nechyporenko V.V., Shumkova O.V. Innovative, methodological, and scientific foundations for evaluating product assortment in enterprise marketing management. *Bulletin of the V.V. Dokuchaev Kharkiv National Agrarian University. Series "Economic Sciences"*, 2021. No. 2, Vol. 2. P. 269-280. ULR: https://visen.knau.kharkov.ua/visn2021t2.html
8. Martyn V.S., Mitsenko N.G., Danilenko O.A. et al. Fundamentals of Scientific Research. Textbook. L.: Romus-Poligraf, 2002.- 128 p. URL: http://kist.ntu.edu.ua/textPhD/osNaukDos.pdf
9. Mushtai V.A. Evaluation of marketing information and its transformation into a marketing program for an enterprise. *Market Infrastructure*. 2020. No. 40. P. 264-270. URL: http://www.market-infr.od.ua/journals/2020/40_2020_ukr/49.pdf
10. Mushtai V.A., Lyshenko M.O., Makarova V.V. Methodological foundations of scientific research of strategic directions of enterprises' activities based on the concept of relationship marketing. *Economy and Society*. 2022. No. 35. ULR:https://economyandsociety.in.ua/index.php/journal/article/view/1127
11. Mushtai V.A. Strategic directions of research into the behavior of industrial consumers as subjects of market infrastructure. *Modern Economics*. 2025. No. 50. P. 129-135. ULR: https://modecon.mnau.edu.ua/issue/50-2025/mushtai.pdf
12. Mushtai V.A. Directions for researching market infrastructure issues. *Marketing and competitiveness of socio-economic systems in the context of sustainable development*: materials from the II International Scientific and Practical Conference. Sumy. April 17, 2024. Sumy. SNAU, 2024. P. 175-179. ULR: https://science.snau.edu.ua/

6.3. Methodological support

1. Mushtai V.A. Fundamentals of scientific research. Lecture notes for first (bachelor's) level higher education students in the fields of knowledge 05 (C) "Social Sciences, Journalism and Information", 07 (D) "Business, Administration and Law", 12 (F) "Information Technology" in full-time and part-time forms of study. Sumy, 2025. 86 p. (5.3 d.a.) (*Protocol No. 9 of 24.04.2025).*
2. Mushtai V.A. Fundamentals of Scientific Research and Academic Writing. Methodological recommendations for conducting practical classes for full-time and part-time students of the educational and qualification level "Bachelor" in the specialties 126 "Information Systems and Technologies", 075 "Marketing", 076 "Entrepreneurship, Trade and Stock Exchange Activities," 073 "Management," 072 "Finance, Banking and Insurance," 071 "Accounting and Taxation," 051 "Economics," 28 "Public Management and Administration." Sumy, 2022. 67 p. (3.6 d.a.) (*Minutes No. 5 of 08.06.*2022)
3. Mushtai V.A. Fundamentals of Scientific Research and Academic Writing. Methodological recommendations for independent work for full-time and part-time students of the educational and qualification level "Bachelor" in the specialties 126 "Information Systems and Technologies", 075 "Marketing", 076 "Entrepreneurship, Trade and Stock Exchange Activities", 073 "Management", 072 "Finance, Banking and Insurance", 071 "Accounting and

Taxation", 051 "Economics", 28 "Public Management and Administration". Sumy, 2022. 38 p. (2.2 d.a.) (*Minutes No. 5 of 08.06. 2022)*

4. Course "Fundamentals of Scientific Research"/"Fundamentals of Scientific Research and Academic Writing" in the MOODLE system/ Author: V.A. Mushtay. URL: https://cdn.snau.edu.ua/moodle/course/view.php?id=4675

6.4. Information resources

1. Code of Ethics for Scientists of Ukraine. Resolution of the General Meeting of the National Academy of Sciences of Ukraine No. 2 dated 15.04.2009. ULR: https://zakon.rada.gov.ua/rada/show/v0002550-09#Text
2. Information and documentation. Reports in the field of science and technology. Structure and rules of formatting. DSTU 3008:2015. National Standard of Ukraine. 31 p. URL: http://www.knmu.kharkov.ua/attachments/3659_3008-2015.PDF
3. Official website of the State Statistics Service. URL: http://www.ukrstat.gov.ua
4. Regulations on the procedure for checking academic and scientific texts for uniqueness at Sumy National Agrarian University. Protocol No. 3 of 15.10. 2019. URL: http://surl.li/bjieq
5. On scientific and scientific-technical activities. Law of Ukraine No. 922 VII of 25.12.2015, as amended by No. 1369 IX of 30.03.2021 ULR: https://zakon.rada.gov.ua/laws/show/848-19#Text

6.5. Software

1. Use of the standard Microsoft Excel package
2. Canva service
3. Zoom service for organizing online classes.