MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE SUMY NATIONAL AGRARIAN UNIVERSITY

Department of Management named by Professor L.I. Mykhailova Faculty of Economics and Management

MODULE SYLLABUS

THE METHODOLOGY OF SCIENTIFIC RESEARCH status is mandatory

It is implemented within the educational program «Management» (name)

in the specialty D3 «Management»

(code, name)

Qualification: Doctor of Philosophy the third (educational and scientific) level of higher education

	C4 11	/	
Author:	1	(Stoyanets N.,	D. of E.S., Professor)
Module syllabus agreed at the	Protocol No 15	dated 10.06.2025	
Department of Management named by Professor L.I. Mykhailova meeting	Head of Mana Mykhailova	0 1/	ent named by Professor L.I. (A. Oriekhova)
Approved by:		1 1/4	
Guarantor of the Acade	emic program	(moff-	Inna SOKHAN
Dean of the Faculty		Aleeeel.	Svitlana LUKASH
Head of the Departmer where the educational Syllabus review (attach	program is imple	emented //	dies, _Svetlana YAROSHCHUK
Representative of the I		ucation Quality ass	surance, Svidana Welleyets
Registered in electronic	data base	20.00	2025

1. MODULE OVERVIEW

1.	Title	the methodology of scientific research					
2.	Faculty/Department				/ Management Department		
3.	Type	mandator					
4.	Program(s) to which	Education	nal and profess	ional program "	Management" in specialty		
	module is attached	D3 "Mana	agement"				
5.	Module can be suggested						
	for (to be filled in for						
	optional types)						
6.	Level of the National			id scientific) leve	el of higher education		
7	Qualifications Framework		philosophy				
7.	Semester and duration of module	1th semester, 18 weeks					
8.	ECTS credits number	3			,		
9.	Total workload and time		Directed stu		Self-directed study		
	allotment	Lectures	Practicals	Labs			
4.0		20	20		50		
10.	Language of instruction	English	NT - 1'	D CEC 5	C D C		
11.	Module leader		•		ofessor, Professor at the		
		Management Department					
12.	Module leader contact	Hours of consultations - every Tuesday at 12.15, room 303 e Natalystoyanez@gmail.com					
12.	information	Natarystoyane2@gman.com					
13.	Module description		_	_	nts with the knowledge,		
				-	arch within the framework		
			sertation work				
					es of methodology and		
		_			acepts, principles, features		
		_	ng, metnoas, imental resear		echnologies of theoretical		
		_			y to think critically and		
		The course improves students' ability to think critically and constructively evaluate the coherence and adequacy of various					
		options and parts research process. It should affect their own					
		_	_	_	d develops their abilities		
					projects, increases their		
					ty and ability to perform		
			s related to re	esearch, such as	: reviewer and opponent /		
		panelist.					
14.	Module aim			-	c discipline "methodology		
		of conducting scientific research" are:					
		- obtaining knowledge in the field of scientific knowledge					
		methodology necessary for writing a scientific qualification work (PhD);					
			ng knowledg	e about the c	organization of scientific		
		_	-		ntific articles, about the		
			e for defending				
		_	-		ganization of scientific and		
				igher education			
		- the de	evelopment of	t the future so	cientist's personality, the		

		formation of competencies that contribute to self-realization in research activities
15.	Module Dependencies (prerequisites, co- requisites, incompatible modules)	is the formation and development of a scientific outlook and the scientific creativity of the researcher - graduate student and students' acquisition of skills and competencies to set scientific tasks, plan their implementation, organize the collection and processing of information, create conditions for the generation of new ideas and their practical implementation.
16.	The policy of academic integrity	According to the Code of Academic Integrity of Sumy NAU, academic integrity is a set of principles, rules of conduct of participants in the educational process, aimed at forming an independent and responsible personality, able to solve problems in accordance with the educational level in accordance with law and public morality. Academic integrity of applicants for higher education involves independent performance of educational tasks, tasks of current and final control, learning outcomes. It is expected that higher education students will adhere to the principles of academic integrity, aware of the consequences of its violation, which is determined by the regulations of Sumy National Agrarian University, including the Code of Academic Integrity, Regulations on Prevention and Detection of Academic Plagiarism in Sumy NAU. https://snau.edu.ua/viddil-zabezpechennya-yakosti-osviti/zabezpechennya-yakosti-osviti/akademichna-dobrochesnist/). For violation of academic integrity, applicants for higher education may be held subject to such academic liability, namely: - academic fraud (use of the telephone when writing written works) will lead to re-submission of work; - write-off - from the first warning to cancel the job; - plagiarism will cancel the job
	keywords:	methodology, methods, research, concept, empirical methods
17	Link in Moodle	https://cdn.snau.edu.ua/moodle/course/view.php?id=6166

2. CORRELATION BETWEEN MODULE LEARNING OUTCOMES (MLOs) AND PROGRAM LEARNING OUTCOMES (PLOs)

MLOs:		PLOs		How assessed
On successful completion of the	PLO1	PLO 3	PLO 5	
module the learner will be able to:				Multiple aboing tosts
MLOs 1. To know the concept, content,	X		X	Multiple-choice tests,
purpose and functions of science, the				writing essays in oral format
main features of scientific research, its				Tormat
systematicity, evidentiality and				
theoreticality through empirical, logical				
and theoretical cognitive tasks of				
scientific research.				<u> </u>
MLOs 2. Carry out a sequence of logic		X		Presentation
and methodology of scientific research.				preparation,
The main components of scientific				
research methodology.				
MLOs 3. Use basic empirical and		X		Multiple-choice tests,
theoretical methods of scientific				writing essays in oral
research. General characteristics of				format
empirical methods. Observation and				
experiment, comparison and				
measurement.				
MLOs 4. Determine the object, subject,				Writing theses for
and topic of research. Preliminary				participation in the
familiarization with the literature and				conference
definition of the main directions.				
Collection and selection of information				
for research. Formulation of general and				
intermediate research goals. Be able to				
build a research hypothesis, choose				
research methods.				
MLOs 5. Know the requirements for the		X	Х	Writing a professional
level of scientific qualification of persons				article
who obtain the degree of Doctor of				
Philosophy, and registration of the				
results. The project of the procedure for				
awarding the degree of Doctor of				
Philosophy				

- PLO 1 Apply modern tools and technologies for searching, processing and analyzing information, in particular, statistical methods for analyzing data of a large volume and/or complex structure, specialized databases and information systems.
- PLO 3 Develop and research conceptual, mathematical and computer models of processes and systems, effectively use them to obtain new knowledge and/or create innovative products in the field of management and related interdisciplinary areas.
- PLO 5 Deeply understand the general principles and methods of management sciences, as well as the methodology of scientific research, apply them in one's own research in the field of management and in teaching practice.

3. MODULE INDICATIVE CONTENT <u>Autumn semester</u>

Topic.	Distribution of hours		Learning	
List of issues to be considered within the	Direc	ted study	Directed study	resources
topic	Lectures	Practicals	Lectures	
Topic 1. "The concept of scientific research"	2		10	1, 2, 3, 4, 5,
1.Science as a system of knowledge.				
The concept, content, purpose and				
functions of science				
2. The main features of scientific				
research. Systematicity, evidentiality				
and theoreticity of scientific research.				
3. Empirical, logical and theoretical				
cognitive tasks of scientific research.				
4.Forms of organization and				
management of science in Ukraine.				
Classification of scientific research.			10	1.2.2
Topic 2. "The concept of methodology,	2	2	10	1, 2, 3, 4, 5
method, reception in scientific research				
Typology of research methods"				
1.Logic and methodology of scientific				
research.				
2. The concept of a systematic, complex				
and holistic approach in scientific				
research. 3.General scientific, partial				
and special research methods.				
4.The main components of scientific research methodology.				
Topic 3. "Empirical and theoretical	2	2	5	1, 2, 3, 4, 5,
methods of scientific research research	2	_	3	1, 2, 3, 4, 3,
methods"				
1.Principles of a scientist. General				
characteristics of empirical methods.				
2.Observation and experiment,				
comparison and measurement.				
3.Formalization and axiomatization as				
methods of scientific research. General				
scientific theoretical methods, analysis				
and synthesis, their types: empirical,				
elementary-theoretical, structural-				
genetic. Deduction and induction.				
4. The concept of general and partial.				
Modeling and its principles.				
Topic 4. "Structure of the research:	2	2	5	3, 4, 5,
substantiation of the relevance and				
definition of the topic of the research,				
its goal, task"				
1.Concept of relevance of research and				
determination of its degree scientific				
development.				

2.Definition of the object, subject, topic of research. Preliminary familiarization with the literature and definition of the main directions. 3.Collection and selection of information for research. Formulation of general and intermediate research goals.				
Topic 5. "Development of conceptual provisions and apparatus research (hypotheses, methods, stages, objects, means). Study of the theoretical and practical state of the problem » 1. The choice of methodology, basic theoretical provisions of the study. 2. Determination of course and prediction of research results. Building a research hypothesis, choosing research methods. 3. Types of hypotheses: null, descriptive, explanatory, basic, working, prognostic.	2	2	10	1, 2, 3, 4
Topic 6. "Requirements for the level of scientific qualification of persons who obtain the degree of doctor of philosophy, registration of results" 1. Processing of research data and forms of display of scientific research results 2. Analysis and generalization of research data. 3. Determining the representativeness of conclusions. 4. The project of the procedure for awarding the degree of Doctor of Philosophy	-	2	10	1, 2, 3, 4, 5
In total	20	20	50	

4. TEACHING AND LEARNING METHODS

MLOs	Teaching methods	Hours	Learning methods	Hours
	(directed study)		(self-directed study)	
MLOs 1. To know the concept,	Lecture, practical	8	Independent work	10
content, purpose and functions	occupation, discussion		with the textbook,	
of science, the main features of	relevant issues		performance of	
scientific research, its			individual tasks	
systematicity, evidentiality and				
theoreticality through empirical,				
logical and theoretical cognitive				
tasks of scientific research.				

MLOs 2. Carry out a sequence of logic and methodology of scientific research. The main components of scientific research methodology.	Problem lecture, thematic discussion, analysis of specific situations (Case- study)	8	Independent work with the textbook, performance of individual tasks	10
MLOs 3. Use basic empirical and theoretical methods of scientific research. General characteristics of empirical methods. Observation and experiment, comparison and measurement.	Problem lecture, thematic discussion, analysis of specific situations (Case- study)	8	Independent work with the textbook, performance of individual tasks	10
MLOs 4. Determine the object, subject, and topic of research. Preliminary familiarization with the literature and definition of the main directions. Collection and selection of information for research. Formulation of general and intermediate research goals. Be able to build a research hypothesis, choose research methods.	Problem lecture, thematic discussion, "round table", "Brainstorming".	8	Independent work with the textbook, performance of individual tasks	10
MLOs 5. Know the requirements for the level of scientific qualification of persons who obtain the degree of Doctor of Philosophy, and registration of the results. The project of the procedure for awarding the degree of Doctor of Philosophy	Analysis of specific production situations, solution of situational problems.	8	Independent work with the textbook, performance of individual tasks	10

5. ASSESSMENT

5.1. Diagnostic assessment

5.2. Summative assessment

5.2.1. Intended learning outcomes methods:

№	Summative assessment methods	Grades	Deadline
	Testing	20/20%	During the semester
	Multiple choice test (intermediate certification)	15/15%	On the 7th week
	IT (individual tasks for classroom work; individual tasks for independent performance)	35/35%	At the end of each practical session; on the 14th week
	Exam (by tickets)	30/30%	According to the schedule of the session

5.1.1. Grading criteria

Summative assessment method	Unsatisfactory	Satisfactory	Good	Excellent
Testing	< 12 points	12-14 points	15-17 points	18-20 points

	the correct answer was provided for less than 60% of the tasks	the correct answer was provided for 60%-74% of the tasks	J	90% or more tasks were answered correctly
Multiple choice test (intermediate certification)	< 8 points < 5 correct answer	8-10 points 5-6 correct answer	11-13 points 7-8 correct answer	14-15 points 9-10 correct answer
Individual tasks	< 20 points Task requirements not met	Most of the requirements are met, but some components are missing or insufficiently disclosed.	27-30 points All requirements of the task have been fulfilled.	31-35 points All the requirements of the task were fulfilled, the results were presented as part of a general discussion.
Exam (by tickets)	< 20 points Task requirements not met	20-24 points Most of the requirements are met, but some components are missing or insufficiently disclosed.	25-27 points All requirements of the task have been fulfilled.	28-30 points All the requirements of the task were fulfilled, the results were presented as part of a general discussion.

Formative assessment

Formative exercises are designed to enable students to develop particular aspects of their learning, prior to summative assessments. Formative exercises are designed to help students use feedback and self-reflection to manage and develop their learning so that they can see how to improve their work.

№	Formative Assessment elements	Date
1	Testing in Google Forms, Kahoot, Quizizz	At each practical lesson
		(introductory control)
2	Oral feedback from the teacher and students on the	For 5 weeks
	implementation of individual calculation and analytical tasks	
3	Oral feedback from the teacher and students on the	For 10 weeks
	performance of an individual task on the main types of	
	empirical social research	
4	Oral feedback from the teacher and students on the	For 15 weeks
	implementation of the individual task of choosing sociometric	
	criteria	
5	Oral feedback from the teacher and students on the project	For 18 weeks
	implementation (preparation, presentation, defense)	

Self-assessment can be used as an element of summative assessment and formative assessment.

6. LEARNING RESOURCES

6.1.Key resources

6.1.1. Textbooks, manuals

- 1. C. George Thomas (2021) Research Methodology and Scientific Writing Kerala Agricultural University, Thrissur, India 620p.
- 2. Gabriella Punziano Angela Delli Paoli (2021) Handbook of Research on Advanced Research Methodologies for a Digital Society (2 Volumes) 919 Pages DOI: 10.4018/978-1-7998-8473 https://www.igi-global.com/book/handbook-research-advanced-research-methodologies/270864
- 3. Valerie Sheppard Research Methods for the Social Sciences: An Introduction (2020). 280 .https://www.researchgate.net/profile/Valerie-

<u>Sheppard/publication/353999416_Research-Methods-for-the-Social-Sciences-An-Introduction_Updated_Aug_2021/links/611e420f0c2bfa282a55960b/Research-Methods-for-the-Social-Sciences-An-Introduction-Updated-Aug-2021.pdf</u>

- 4. Dr R B Gupta.(2019) Social Science Research Methodology: Concepts and Processes binding: Hardbound 215 p.
- 5. John W. Creswell and J. David Creswell (2020) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches https://www.ucg.ac.me/skladiste/blog 609332/objava 105202/fajlovi/Creswell.pdf

6.3 Software

- 1 Use of standard Microsoft packages: Word, Excel, PowerPoint.
- 2 Multimedia, video and sound reproduction, projection equipment (video cameras, projectors, screens).
 - 3 Service for organising online classes and webinars "Zoom"

methodological publications

- N. Stoyanets. Methodology of scientific research. Synopsis of lectures for applicants of the specialty "Management" at the third (Doctor of Philosophy) level of higher education full-time Stoyanets N. Sumy, 2025.-101 p.
- N. Stoyanets. Methodology of scientific research. Methodological instructions for independent work and completion of individual tasks for applicants of the specialty "Management" at the third (Doctor of Philosophy) level of higher education full-time 33 p., (Протокол № 10 від 16 травня 2025 р)
- N. Stoyanets. Methodology of scientific research. Methodological recommendations for practical classes for applicants of the specialty "Management" at the third (Doctor of Philosophy) level of higher education full-time 35 p., (Протокол № 10 від 16 травня 2025 р)

Information resources

- 1. Elsevier [Electronic resource]. Access mode: http://www.elsevier.com.
- 2. Science Direct [Electronic resource]. Access mode: https://www.sciencedirect.com/.
- 3. ORCID [Electronic resource]. Access mode: http://www.orcid.org.
- 4. Scopus for authors [Electronic resource]. Access mode: https://www.scopus.com/home.uri?zone=header&origin=.
 - 5. Legislation of Ukraine [Electronic resource]. Access mode: https://rada.gov.ua/.
- 6. Funding of scientific research in Ukraine and the world [Electronic resource]. Access mode: http://edclub.com.ua/analityka/finansuvannya-naukovyhdoslidzhenv-ukrayini-ta-sviti.
- 6. Science in universities [Electronic resource]. Access mode: https://mon. gov. ua/ua/nauka/nauka/nauka-v-universitetah.
- 7. Academic mobility [Electronic resource]. Access mode: https://mon.gov.ua/ua/osvita/visha-osvita/osvita-za-kordonom/akademichnamobilnist

Legislative framework

- 1. On innovative activity: Law of Ukraine. Ost. ed. dated 07/26/2010 [Electronic resource]. Access mode: http://zakon.rada.gov.ua.
- 2. The Law of Ukraine "On Scientific and Scientific-Technological Activity" is in force, current edition dated 10.20.2019, basis 155-IX. URL: https://zakon.rada.gov.ua/laws/show/1560-12#Text
- 3. The Law of Ukraine "On Priority Areas of Innovative Activity" is in force, current edition dated 10.20.2019, basis 155-IX. URL: https://zakon.rada.gov.ua/laws/show
- 4. The Law of Ukraine "On the Special Regime of Innovative Activity of Technological Parks" is in force, current version dated 10.20.2019, basis 155-IX. URL: https://zakon.rada.gov.ua/laws/show
- 5. The Law of Ukraine "On Scientific and Technical Information" (dated 06/25/93 No. 3323-XII) is in force, current version dated 10/20/2019, basis 155-IX. URL: https://zakon.rada.gov.ua/laws/show/1560-12#Text.

- 6. The Law of Ukraine "On priority areas of development of science and technology" (from 11.07.2002 No. 2623-III) is in force, current edition from 20.10.2019, basis 155-IX. URL: https://zakon.rada.gov.ua/laws/show/1560-12#Text.
- 7. Resolution of the Verkhovna Rada of Ukraine "On the concept of scientific, technical and innovative development of Ukraine" (dated 07.13.99 No. 916-XИВ) is valid, current edition dated 10.20.2019, basis 155-IX. URL: https://zakon.rada.gov.ua/laws/show/1560-12#Text.
- 8. Science in universities [Electronic resource]. Access mode: https://mon. gov. ua/ua/nauka/nauka/nauka-v-universitetah.
- 9. Academic mobility [Electronic resource]. Access mode: https://mon.gov.ua/ua/osvita/visha-osvita/osvita-za-kordonom/akademichnamobilnist
 - 20. Grants [Electronic resource]. Access mode: http://zrda.org/grants/.

International specialized search engines

 $http://info.studyweb.com - a specialized search system for educational resources \\ http://infomine.ucr.edu - a virtual library of electronic publications \\ http://searchenginewatch.com/links/Specialty_Search_Engines - a catalog of specialized search engines \\$

http://www.sciseek.com - search for scientific information Ukrainian specialized search systems

http://meta-ukraine.com/ Meta is a Ukrainian search engine with a wide search system for various topics, including a selection of electronic dictionaries.

English-language search engines

http://www.yahoo.com/ - an English-language search engine with the most developed structure of catalogs and various services. Hundreds of thousands of different Internet resources are manually sorted by 14 main headings, each of which has several subheadings with narrower topics.

http://www.lycos.com/ - Lycos includes a huge database with more than 66 million URLs. This search engine (in English) contains a variety of interesting information, including news, node reviews, links to popular nodes, city maps, as well as tools for finding addresses of different people and searching for web images and sound clips.