PJSC "Higher Educational Institution
"INTERREGIONAL ACADEMY OF PERSONNEL MANAGEMENT"

МАУП

SYLLABUS
of the academic discipline

BUSINESS ANALYTICS

Level of higher education: first (bachelor's) level

Field of knowledge: D Business, Administration and Law

Specialty: D3 Management

Study program: Management

IAPM 2025

General information about the academic discipline

Name of the academic discipline	Business analytics
Code and name of the specialty	D3 Management
Level of higher education	First (bachelor's) level
Discipline status	Compulsory
Number of credits and hours	3 credits/90 hours Lectures: 14 hours Seminars/practical classes: 28 hours Students' independent work: 48 hours
Terms of study of the discipline	6 semester
Language of instruction	Ukrainian
Final control type	Exam

General information about the instructor. Contact information.

Full name of the instructor	Maryna Akuliushyna
Academic degree	PhD in Economic Sciences
Position	Associate Professor of the Department of Economics and Management
Areas of scientific research	Theoretical and methodological foundations of business planning, diagnostics, and ensuring the sustainability of entrepreneurial structures under risk conditions.
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Instructor's portfolio on the website	https://izmail.maup.com.ua/assets/files/akulyushina-portfolio-a.pdf

Discipline's description.

Currently, business analytics is one of the most sought-after and dynamic areas, as in today's world, where digitalization is developing at a dynamic pace, the ability to

analyze, interpret, use data and information to make strategic decisions becomes critical to the success of any organization. Studying this discipline allows applicants not only to process information, but also to identify hidden patterns, forecast market trends, optimize business processes and create competitive advantages, which makes them indispensable for companies striving for growth and innovation. In addition, business analysis skills form a strong analytical base, which is the basis for further development in the field of management, marketing, finance and other key areas, confirming the relevance and universality of studying this educational component.

The subject of the discipline of the academic discipline is methods and tools of quantitative analysis of business processes, which allow transforming input data into useful information and effective management decisions, which includes the study of methods of data collection, processing, visualization and interpretation, as well as the application of statistical and mathematical models, economic and financial analysis for forecasting, optimization and evaluation of business activities.

The aim of the discipline is for higher education applicants to acquire the necessary knowledge and practical skills for the effective use of data in the process of making management decisions. The course aims to train future management professionals to collect, analyze and interpret large amounts of information, identify key trends, predict future results and optimize business processes. Students of higher education will be able not only to understand how the organization works, but also to develop well-founded recommendations that will contribute to its development, increase competitiveness and achieve strategic goals based on in-depth data analysis.

The objectives of the discipline:

1. To familiarize yourself with the basic concepts, methods and tools of business analytics, as well as with the cycle of data analysis: from the collection to the presentation of results;
2. Critically evaluate information, determine data sources, clean them and structure them to ensure the accuracy and reliability of the analysis;
3. Implement practical skills in building analytical models for forecasting trends, consumer behaviour and market dynamics;
4. Formulate well-founded management recommendations that help optimize business processes;
5. Increase efficiency and achieve the strategic goals of the organization.

Prerequisites for the discipline:

The study of the academic discipline “Business analytics” is based on the knowledge and skills acquired by education seekers in the study of the following disciplines: “Higher mathematics”, “Microeconomics”, “Probability theory”, “Statistics”, “Management”, “Finance, money and credit”, “Macroeconomics”, “Economics of the enterprise”, “Business planning and start-up creation” and others.

Post-requests for the discipline:

The knowledge and skills acquired by students in the process of studying the academic discipline “Business analytics” contribute to the successful study by students of higher education of a number of other academic disciplines aimed at the formation of professional knowledge and skills:
The academic discipline ensures the formation of general and special competencies by students and the acquisition of learning results determined by the educational and professional program D3 Management, namely: “Basics of business management”, “Basics of project management”, “Strategic enterprise management”.

Program competences

General competences	GC3. Ability for abstract thinking, analysis, and synthesis. GC8. Skills in using information and communication technologies. GC10. Ability to conduct research at the appropriate level.
Special competences	SC2. Ability to analyze the performance results of an organization and compare them with the influencing factors of the external and internal environment. SC7. Ability to select and apply modern management tools. SC12. Ability to analyze and structure organizational problems and develop well-founded decisions. SC14. Understanding the principles of psychology and the ability to apply them in professional activities.
Intended learning outcomes	ILO4. Demonstrate the ability to identify problems and justify managerial decisions. ILO5. Describe the content of the functional areas of an organization’s activities. ILO6. Demonstrate skills in searching for, collecting, and analyzing information, and calculating indicators to justify managerial decisions. ILO11. Demonstrate the ability to analyze situations and communicate effectively across various areas of organizational activity. ILO17. Conduct research individually and/or in a group under the supervision of a leader. ILO18. Demonstrate skills in analyzing the effectiveness of management of operational, marketing, foreign economic activity of the enterprise, justify the directions of its future development for the preparation and presentation of analytical reports. ILO19. Demonstrate the ability to initiate, develop and implement business projects and start-ups using the principles of project management, methods of strategic analysis and business intelligence to ensure the competitiveness of the organization.

Content of the academic discipline

№	Topics	Number of hours, of which :			
		Lectures	Seminars	Independent work	Teaching methods /assessment methods

6th semester **Content module 1.** **Basics of business analytics and working with data**					**Teaching methods:** Verbal method: lectures-presentations, discussion of problematic issues, dialogue. Practical method: practical classes, workshops, calculation and analytical tasks, solving situational tasks, case methods. Active methods: debates; self-assessment of knowledge, use of educational and control tests. Work with educational and methodological literature: annotation, thesis, essay. Innovative methods: competent; project-research. **Assessment methods**: oral control (oral survey, evaluation of participation in discussions, other interactive learning methods); practical tasks (performance of tasks using analytics tools); written control (control, independent works); test control (closed tests: test alternative, test compliance); method of self-control and self-assessment; assessment of case tasks.
Topic 1.	Introduction to business intelligence and its role in modern business.	2	2	6	
Topic 2.	Data sources and basics of their preparation.	2	2	4	
Topic 3.	Descriptive analytics: key indicators and visualization.	1	4	6	
Topic 4.	Economic analysis in management decision-making.	1	4	4	
Topic 5.	Analysis of financial statements.	2	2	4	
Content module 2. **Predictive models and strategic planning**					
Topic 6.	Predictive analytics and risk assessment.	1	4	4	
Topic 7.	Regression analysis for financial modelling	2	2	4	
Topic 8.	Business planning and forecasting.	1	4	6	
Topic 9.	Business analytics in investment management.	1	2	4	
Topic 10.	Tools and ethics in business analytics.	1	2	6	
Module Assessment Task					
Total:		**14**	**28**	**48**	
Final assessment: exam					

Technical equipment and/or software – official website of IAPM: http://IAPM.com.ua The educational process involves the use of classrooms, a library, a multimedia projector, and a computer for conducting lectures and seminars with presentation elements. Studying individual topics and completing practical tasks requires access to internet resources, which is provided through a free Wi-Fi network.

Forms and methods of assessment.

Assessment of students' academic performance is divided into ongoing and final (semester) assessment.

Ongoing assessment is conducted during practical (seminar) classes and is aimed at systematically checking the understanding and assimilation of theoretical material, as well as the ability to apply theoretical knowledge when completing practical tasks. The possibilities of ongoing assessment are extensive: it can support learning motivation, stimulate educational and cognitive activity, enable a differentiated approach to teaching, and ensure individualization of the learning process.

Forms of student participation in the educational process subject to ongoing assessment include:

- oral reports;
- comments and questions to the speaker;
- consistent performance in seminar classes and active participation in discussions;
- participation in debates and interactive learning activities;
- analysis of legislation and academic literature;
- written assignments (tests, quizzes, creative tasks, essays, etc.);
- preparation of theses and summaries of academic or scientific texts;
- independent study of course topics.

Methods of ongoing assessment include: oral assessment (interview, discussion, report, presentation, etc.); written assessment (tests, essays, written presentations on assigned topics, etc.); combined assessment; presentation of independent work; observation as a method of assessment; testing; analysis of problem situations.

Grading system and requirements.
Table of distribution of points received by students

	Ongoing knowledge assessment										Modular assessment task	Exam	Total points
Topics	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5	Topic 6	Topic 7	Topic 8	Topic 9	Topic 10	20	40	100
Work in a seminar	3	3	3	3	3	3	3	3	3	3			
Independent work	1	1	1	1	1	1	1	1	1	1			

The table contains information about the maximum points for each type of assignment.

When assessing the mastery of each topic within ongoing educational activities, students receive marks in accordance with the approved assessment criteria for the respective discipline.

The criteria for evaluating learning outcomes and the distribution of points are regulated by the Regulations on the Assessment of Students' Academic Achievements at PJSC "HEI IAPM".

Modular assessment. Modular assessment in the discipline "Business analytics" is conducted in written form as testing using closed-type test items, including alternative and matching formats.

Criteria for evaluating the modular test in the academic discipline "Business analytics":

When evaluating the modular test, the volume and correctness of the completed tasks are taken into account:

- the grade "excellent" (A) is given for the correct completion of all tasks (or more than 90% of all tasks);
- the grade "good" (B) is given for the completion of 80% of all tasks;
- the grade "good" (C) is given for the completion of 70% of all tasks;
- the grade "satisfactory" (D) is given if 60% of the proposed tasks are completed correctly;
- the grade "satisfactory" (E) is given if more than 50% of the proposed tasks are completed correctly;
- the grade "unsatisfactory" (FX) is given if less than 50% of the tasks are completed.

Absence from the modular test work - 0 points.

The above grades are transformed into rating points as follows:

"A" - 18-20 points;
"B" - 16-17 points;
"C" - 14-15 points;
"D" - 12-13 points.
"E" - 10-11 points;
"FX" - less than 10 points.

The final semester assessment in the academic discipline "Business analytics" is a mandatory form of evaluating student learning outcomes. It is conducted within the period established by the academic schedule and covers the volume of material defined in the course syllabus.

The final assessment is administered in the form of an exam. A student is admitted to the exam only if all required coursework specified in the syllabus has been completed.

The final (semester) grade for a discipline assessed by examination consists of two components: the results of ongoing assessment and the exam grade.

The maximum number of points for ongoing assessment is 60, and the maximum for the exam is 40.

The minimum number of points required to pass the exam is 25.

The grade for ongoing assessment is formed as the sum of rating points earned by the student during seminar/practical classes and any incentive (bonus) points, if applicable.

After evaluating a student's exam responses, the instructor adds the exam score to the points earned for ongoing assessment to determine the final grade for the course.

Scale for the assessment of exam tasks

Scale	Total points	Criteria
Excellent level	30–40	The task is completed with high quality; the student has achieved the maximum score in the assessment of theoretical knowledge.
Good level	20–29	The task is completed with high quality and a sufficiently high proportion of correct answers.
Satisfactory level	10–19	The task is completed with an average number of correct answers; the student has demonstrated theoretical knowledge with significant errors.
Unsatisfactory level	0–9	The task is not completed; the student has demonstrated theoretical knowledge with major errors.

Assessment of additional (individual) types of educational activities. Additional (individual) types of educational activity include student participation in scientific conferences, research societies and problem groups, preparation of publications, and other activities beyond the tasks defined in the syllabus of the academic discipline.

By decision of the department, students who engage in research work or complete certain types of additional (individual) educational activities may receive incentive (bonus) points for a specific educational component.

Incentive points are not mandatory and are not included in the standard point distribution table or the main assessment scale.

A single event may serve as the basis for awarding incentive points for only one educational component – the one to which it is most relevant.

Assessment of independent work

The total number of points earned by a student for completing independent work is one of the components of academic performance in the discipline. Independent work for each topic, in accordance with the course program, is evaluated within the range of 0 to 1 points using standardized and generalized knowledge assessment criteria.

Scale for evaluating the performance of independent work (individual tasks)

The maximum possible assessment of independent work (individual tasks)	Execution level			
	Excellent	Good	Satisfactory	Unsatisfactory
1	1	0,75	0,5	0

Forms of assessment include: ongoing assessment of practical work; ongoing assessment of knowledge acquisition based on oral responses, reports, presentations, and other forms of participation during practical (seminar) classes; individual or group projects requiring the development of practical skills and competencies (optional format); solving situational tasks; preparation of summaries on independently studied topics; testing or written examinations; preparation of draft articles, conference abstracts, and other publications; other forms that ensure comprehensive assimilation of the study program and contribute to the gradual development of skills for effective independent professional (practical, scientific, and theoretical) activity at a high level.

To assess the learning outcomes of a student during the semester, a 100-point, national and ECTS assessment scale is used

Summary assessment scale: national and ECTS

Total points for all types of learning activities	ECTS assessment	National scale assessment for exam, course project (work), internship	
		National scale assessment for exam, course project (work), internship	For pass/fail (credit)
90 – 100	A	excellent	pass
82 – 89	B	good	
75 – 81	C		
68 – 74	D	satisfactory	
60 – 67	E		
35 – 59	FX	unsatisfactory with the possibility of retaking	fail unsatisfactory with the possibility of retaking
0 – 34	F	unsatisfactory with mandatory re-study of the discipline	fail unsatisfactory with mandatory re-study of the discipline

Discipline's Policy:

- regularly attend lectures and practical classes;
- work systematically and actively in lectures and practical classes;
- catch-up on missed classes;
- perform the tasks required by the syllabus in full and with appropriate quality;
- perform control and other independent work;
- adhere to the norms of academic behaviour and ethics.

The academic discipline "Business analytics" requires adherence to the principles of ethics and academic integrity, with particular emphasis on preventing plagiarism in all its forms. All written assignments, reports, essays, abstracts, and presentations must be original, authored by the student, and not overloaded with quotations, which must be accompanied by references to primary sources. Violations of academic integrity include academic plagiarism, self-plagiarism, fabrication, falsification, copying, deception, bribery, and biased evaluation.

Student assessment is based on participation and activity in seminar/practical classes, completion of independent work tasks, and performance of assignments aimed at developing practical skills and competencies. Additional (bonus) points may be awarded for activities such as participation in round-table discussions, scientific conferences, or student research competitions.

Methodological support of the academic discipline

Teaching and methodological support for the discipline includes lecture notes, methodological guidelines for conducting practical (seminar) classes, and methodological recommendations for students' independent work in the academic discipline "Business analytics".

Recommended sources of information:

Basic literature:

1. Economic analytics in business : training. manual / [O.S. Hrynkevich, S. O. Matkovskyi, A. V. Sydorova et al.]; under the editorship. O.S. Hrynkevich, S.O. Matkovsky, A.V. Sydorova, N.S. Brook. Lviv: LNU named after. Ivan Franko, 2022. 480 p.
2. Lagovsky V.V., Kraevsky V.M. Business analytics and modeling: education. manual. Irpin: SFS University of Ukraine, 2020. 442 p.
3. Analysis of economic activity: G. Datsenko, N. Kotseruba, I. Krupelnytska, O. Kudyrko, I. Lobacheva; Kyiv. national trade-economy Univ. Vinnytsia trade-economy Institute. Vinnytsia. 2021. 416 p.
4. Kushlyk O.Yu. Business analytics and modeling: lecture notes. Ivano-Frankivsk: IFNTUNG, 2021. 71 p.
5. Sydorova A. V., Bilenko D. V., Burkina N. IN. C 347 Business analytics: educational and methodological manual. Vinnytsia: DonNU named after Vasyl Stus. 2019. 104 p.

Additional literature:

1. Dmytryshyn B. V., Borovy M. IN. Business analytics and its role in managing enterprise competitiveness. Central Ukrainian Scientific Bulletin. Economic Sciences, 2020. Vol. 5 (38). S. 214 – 220.
2. Ponomarenko I. V., Teleus A. IN. Business analytics as an effective data processing tool. Problems of innovation and investment development. 2020. № 23. S. 64 -70.
3. Magas N. IN. Workshop on financial analysis : Lviv: Lviv Institute PrAT «University «MAUP». 2024. 70 c.
4. Dropa Ya. B. Financial analysis : training. manual. Lviv: LNU named after. Ivan Franko, 2023. 238 p.
5. Pistunov I. M. Modeling business processes. Dnipro: NTU «DP». 2021. 130 p.
6. Tyutyunnyk Yu.M., Dorogan-Pysarenko L.O., Tyutyunnyk S.V. Financial analysis : training. manual. Poltava : PP Publishing House «Astraja», 2020. 434 p.
7. Osterwalder Oh, Pinier Yves. Building business models. Desktop book of a strategist and innovator. Kyiv, Alpina Publisher Ukraine. 2020. 288 p.
8. Hrytsaenko G.I., Hrytsaenko M.I. Analysis of economic activity: study guide. Melitopol: Suite, 2021. 260 p.
9. Kicked out, S. M, Vyunenko O. B. Trends in the development of information technologies in business analytics. Scientific notes of TNU named after V. AND. Vernadskyi. Series: Technical sciences. 2021. Vol. 32 (71), ch. 1, № 1. S. 51–55.
10. Epifanova, I. Yu., Jejula V. IN. Financial analysis and reporting : electronic workshop 2nd ed., ext. Vinnytsia: VNTU, 2022. 144 p.
11. On the approval of the National Accounting Regulation (standard) 1 «General requirements for financial reporting»: Order of the Ministry of Finance of Ukraine dated February 7, 2013 № 73. URL: https://zakon.rada.gov.ua/laws/show/z0336-13#Text
12. .Dykan V. L., Tokmakova I. V., Ovchinnikova V. O. and others. Economic diagnostics. UkrDUZT, 2022. 285 p.
13. Magas N. V., Parfenyuk E. AND. Improvement of methods of assessing the competitiveness of the enterprise: modern approaches and trends. Scientific perspectives. Series «Economy». 2024. № 9 (51). S. 623-632.
14. Petrukha, N., Mahas, N., Lelyk, L., Rybak, S., Voronka, O., & Samofalova, M. (2025). ENSURING FINANCIAL AND ECONOMIC SECURITY OF ENTERPRISES IN CONDITIONS OF DYNAMIC LABOUR MARKET CHANGES. Financial and Credit Activity Problems of Theory and Practice, 1(60), 299–308.
15. Lelyk L.I., Magas N.V., Farovych R.B. Information management technologies as a tool for implementing strategic goals of economic entities. Digital economy and economic security. № 2(17). 2025. S. 187-190.
16. Lelyk L. I., Magas N. V., Dubchak V. O. The concept of the mechanism for ensuring the financial security of the enterprise. Scientific works of MAUP. Economic sciences. 2025. Vol. 2 (78). S. 100-107.

17. Magas N.V., Lenartovych O.P. The impact of the digital economy on innovation implementation processes. Digital economy: mater. ext. III International Scientific and Practical Conference. (June 5-6, 2025). Kyiv: KNEU named after. Vadym Hetman. S. 270-272.
18. Zadorozhnyuk N. O. Modern software for business analysis. № 19, 2021. Economic Bulletin of NTUU «Kyiv Polytechnic Institute». S. 156-159.
19. Economic analysis: theory and practice : teaching-method. manual /A. IN. Rybchuk, O. A. Kovenska, N. M. Antofius, V. AND. Pokotilova. Kherson: OLDIE-PLUS, 2020. 220 c.

Information resources:

1. The official website of the National Library of Ukraine named after V.I. Vernadskyi. URL : http://www.nbuv.gov.ua/
2. Official website of the Ministry of Finance of Ukraine. URL: www.minfin.gov.ua
3. Official website of the National Bank of Ukraine. URL: www.bank.gov.ua
4. Official website of the Verkhovna Rada of Ukraine. URL : http://www.portal.rada.gov.ua
5. Official website of the Ministry of Economy of Ukraine. URL : http://www.me.gov.ua
6. Official website of the Cabinet of Ministers of Ukraine. URL : http://www.kmu.gov.ua
7. Official website of the State Statistics Committee of Ukraine. URL : http://www.ukrstat.gov.ua
8. Official site Business solutions YouControl. URL : https://youcontrol.com.ua/
9. Official website of the International Institute of Business Analysis. URL : https://www.iiba.org/
10. Community of experts in project management methodology. URL: www.scrum.org
11. Management: Internet portal for managers. URL : https://www.management.com.ua/