

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY								Faculty of Engineering Management				
Field of study		Management						Level and form of study		full-time second-cycle studies		
A group of modules /specialty		common courses						Education profile		general academic profile		
Course name		Organizational Anthropology						Course code		H2Ew1s.001		
								Course type		elective		
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester	1		
		30							ECTS credits	2		
The programme is valid from								2026/2027				
Introductory courses												
Course objectives		The aim of the course is to provide systematic and in-depth knowledge about the social and cultural mechanisms underlying the functioning of organizations, as well as the specificity and nature of organizations as cultural systems. The knowledge conveyed during the course also concerns the specificity and essence of concepts related to communication, power, and social relations within organizations.										
Framework programme content		Organizational culture. Organizational rituals and symbols. Power and hierarchy. Organizational communication. Identity and social roles. Digital organizations and remote work. Startups and the culture of innovation. Organizational conflicts and resistance. Cultural diversity. Intercultural organizations. Anthropology of bureaucracy. Ethnographic research methods. The future of organizations.										
Other information about the course												
		Student workload related to:							Total number of hours	including contact	including practical	
Calculation:		participation in lectures							30	30		
		preparation for passing a lecture							20			
		Total number of hours:							50	30	0	
		Total number of ECTS credits:							2	1.2	0.0	
Expected discipline learning outcomes									Knowledge	Skills	Social competence	
									ZARZII_W06 (H2_W01); ZARZII_W07 (H2_W02)		ZARZII_K04 (H2_K02)	
Objectives and framework content prepared by		Agnieszka Konopelko, PhD							Date:	2026-05-07		
Implementation in the academic year								2026/2027				
		Lecture										
		1	Introduction to the subject of organizational anthropology.									
		2	Research methods in organizational anthropology.									
		3	Organizational culture. Values, norms, and symbols.									
		4	The organization as a tribe. Organizational rituals.									
		5	Power, hierarchy, and authority. Social control.									
		6	Communication and organizational language.									
		7	Employee identity and social roles.									
		8	Digital organizations. Remote and hybrid work culture.									
		9	Anthropology of startups and innovation.									
		10	Conflicts and resistance in organizations.									
		11	Cultural diversity and inclusion.									
		12	Global organizations and interculturality.									
		13	Anthropology of bureaucracy.									
		14	The future of organizations and organizational culture.									
		15	Written assessment.									
Teaching methods (on-site classes)		L	problem-based lecture; informative lecture; lecture with a multimedia presentation									
Teaching methods (online classes)		L	problem-based lecture;informative lecture; lecture with a multimedia presentation delivered via Microsoft Teams									
Forms of crediting		L	written test with closed-ended and semi-open-ended questions									
Conditions of crediting		L	The assessment takes the form of a written test with closed-ended and semi-open-ended questions. The final grade is determined by the total number of points the student earns. The points awarded for individual answers are summed and converted into a final grade according to the adopted grading scale: 91 – 100% (5.0); 81 – 90% (4.5); 71 – 80% (4.0); 61 – 70% (3.5); 51 – 60% (3.0); less than 51% (2.0).									

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	in-depth the social and cultural mechanisms underlying the functioning of organizations	ZARZII_W06 (H2_W01); ZARZII_W07 (H2_W02)		
E2	the specificity and essence of organizations as cultural systems	ZARZII_W06 (H2_W01); ZARZII_W07 (H2_W02)		
E3	in-depth concepts related to communication, power, and social relations in organizations; the importance of analyzing organizations as social systems	ZARZII_W06 (H2_W01); ZARZII_W07 (H2_W02)		
Skills: the student can				
Social competence: the student is ready to				
E4	critically reflect on cultural patterns of organizational functioning and to respect values related to diversity, inclusion, and the social dimension of organizational relationships			ZARZII_K04 (H2_K02)
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	written test			L
E2	written test			L
E3	written test			L
E4	written test			L
Basic references	1	Lee M., Y., Enacting Decentralized Authority: The Practices and Limits of Moving Beyond Hierarchy, Administrative Science Quarterly (2024), Vol 69 (3), 791-833. [Electronic document]. Access: https://journals.sagepub.com/doi/full/10.1177/00018392241257372?utm_source=chatgpt.com		
	2	Özdemir K, Didem D. and Fotaki, M. (2024) Grounding in the unconscious : "The field" in psychosocial organizational ethnography. Organization Studies, 31 (6), 929-951. [Electronic document]. Access: https://wrap.warwick.ac.uk/id/eprint/173698/?utm_source=chatgpt.com .		
	3	Skovgaard-Smith I., Ethnography beyond the tribe: from immersion to "committed localism" in the study of relational work, Journal of Organizational Ethnography, Volume 13 (2), 233-249.		
Supplementary references	1	Raza Mir, Anne-Laure Fayard, The Routledge Companion to Anthropology and Business, Routledge, New York 2023.		
	2	WAGEEH. NAFEI, Organizational Ethnography, KS Omniscryptum Publishing, Kiszyniów 2024.		
	3	Mahuya Pal, Joëlle Cruz, Debashish Munshi, Theorizing Organizations of Struggle in the Global South, Springer, Cham 2023.		
Course coordinator	dr Agnieszka Konopelko	Date:	5/7/2026	

COURSE CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY

Faculty of Engineering Management

Field of study	Management	Level and form of study	full-time second-cycle studies
A group of modules /specialty	Innovation & Business Management	Education profile	general academic
Course name	Human – Culture – Values	Course code	H2Ew1s.003
Course form(s) and number of hours	L C LC P SW FW S	Course type	elective
The programme is valid from	30	Semester	1
Introductory courses		ECTS credits	2
			2026/2027

Course objectives The aim of the course is to show the influence of culture on the psychological characteristics of the individual: mentality, personality, the manner of constructing the Self, and especially value systems. The focus is on the analysis of differences in cultural dimensions and their axiological and behavioural consequences. This information is important from the point of view of the manager's work in a multicultural environment (and especially in values management).

Framework programme content The individual and culture – analysis of issues of mentality, psychological processes and dispositional structures of the psyche (personality and the concept of the Self) from a cultural perspective. The content profile of value systems – analysis from the point of view of individual and cultural conditions. The cultural map of the world. Values as a factor differentiating attitudes and behaviours (including social ones). The Big Two (agency and communion) as a construct explaining differences in the content aspect of value systems and cultural specificity.

Other information ---

Student workload related to:		Total number of hours	including contact	including practical
Calculation:	participation in lectures	30	30	
	preparation for the lecture assessment	20		
	Total hours:	50	30	0
	Total ECTS credits:	2	1.2	0.0
		Knowledge	Skills	Social competence

Expected discipline learning outcomes ZARZII_W06 (H2_W01); ZARZII_W07 (H2_W02) ZARZII_K04 (H2_K02)

Objectives and framework content prepared by Mirosława Czerniawska, PhD

Date:
08.05.2026

Implementation in the academic year

2026/2027

Lecture	
Programme content	1 Discussion of the course card. Human – Culture – Values – introductory issues. 2 The human being as an entity embedded in culture. The relationship of the individual with their cultural environment. 3 Cultural determinants of the individual's mentality. 4 Culture and its dimensions – the concept of G. Hofstede. 5 The relationship between culture and the psychological processes of the individual. 6 The relationship between culture and the dispositional structures of the psyche. 7 Culture, the Self, personality. 8 Values and their regulatory role – the theory of M. Rokeach and S.H. Schwartz. 9 Cultural, political-economic and religious determinants of value systems. 10 The cultural map of the world based on values. 11 Personality determinants of value systems. 12 Values as a factor determining attitudes and behaviours. 13 Culture and the social behaviour of the individual. 14 Agency and communion – their relationship with values and culture. 15 Course assessment.
Teaching methods (on-site classes)	L informative lecture; problem-based lecture; lecture with multimedia presentation
Teaching methods (online classes)	L informative lecture; problem-based lecture; lecture with multimedia presentation, using MS Teams
Forms of crediting	L written assessment – test

The assessment takes the form of a written test. Individual questions are scored.
Grading criteria:

Conditions of crediting	L	5.0 when the student obtains 100–96% of all points available on the exam 4.5 95%–86% 4.0 85%–76% 3.5 75%–66% 3.0 65%–51% 2.0 below 51%	The grade is raised by ½ for regular attendance at lectures.
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Outcome symbols	Anticipated learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	in-depth the cultural and individual determinants of psychological processes and dispositional structures of the psyche.	ZARZII_W06 (H2_W01); ZARZII_W07 (H2_W02)		
E2	the regulatory role of values in human functioning, and the cultural and individual determinants of value systems.	ZARZII_W06 (H2_W01); ZARZII_W07 (H2_W02)		
E3	cultural and psychological conditions of human functioning in an organization, in particular the relationship between culture, value system, personality and social behavior of an individual.	ZARZII_W06 (H2_W01); ZARZII_W07 (H2_W02)		
Skills: the student can				
Social competences: the student is ready to				
E4	critical reflection on the cultural and axiological conditions of human actions and to take into account humanistic, social and ethical values in the interpretation of the behaviour of individuals and social groups.			ZARZII_K04 (H2_K02)
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	written assessment - test		L	
E2	written assessment - test		L	
E3	written assessment - test		L	
E4	written assessment - test		L	
Basic references	1	Akaliyski P., Welzel C. (2020). Clashing values: Supranational identities, geopolitical rivalry and Europe's growing cultural divide. <i>Journal of Cross-Cultural Psychology</i> , 51(9), 740–762. [Electronic document]. Access: https://doi.org/10.1177/0022022120956716		
	2	Kaasa A., Minkov M. (2020). Are the World's National Cultures Becoming More Similar? <i>Journal of Cross-Cultural Psychology</i> , 51(7–8), 531–550. [Electronic document]. Access: https://doi.org/10.1177/0022022120933677		
	3	Goemaere, H., Spruyt, B., & Siongers, J. (2025). Value of culture – The social value of culture. Centre for Cultural Research. [Electronic document]. Access: https://www.cultuuronderzoek.be/wp-content/uploads/2025/11/Value-of-culture-The-social-value-of-culture.pdf		
	4	Sagiv, L., & Roccas, S. (2021). How do values affect behavior? Let me count the ways. <i>Personality and Social Psychology Review</i> , 2021, 25(4), 295–316. [Electronic document]. Access: https://doi.org/10.1177/10888683211015975		
	1	Sagiv L., Schwartz S.H., Personal Values Across Cultures, <i>Annual Review of Psychology</i> 2022, 73, 517–546. [Electronic document]. Access: https://www.annualreviews.org/content/journals/10.1146/annurev-psych-020821-125100		
Supplementary references	2	Czerniawska D., Czerniawska M., Szydło J., Between Collectivism and Individualism – Analysis of Changes in Value Systems of Students in the Period of 15 Years. <i>Psychology Research and Behavior Management</i> 2021:14 2015–2033. [Electronic document]. Access: https://pmc.ncbi.nlm.nih.gov/articles/PMC8684429/		
	3	Czerniawska M., Szydło J., Do Values Relate to Personality Traits and if so, in What Way? – Analysis of Relationships. <i>Psychology Research and Behavior Management</i> 2021:14 511–527. [Electronic document]. Access: https://www.dovepress.com/front_end/cr_data/cache/pdf/download_1620197084_60923edc392fc/prbm-299720-do-values-relate-to-personality-traits-and-if-so-in-what-wa.pdf		
	4	Minkov M., Kaasa A. (2021). A Test of the Revised Minkov-Hofstede Model of Culture: Mirror Images of Subjective and Objective Culture across Nations and the 50 US States. <i>Cross-Cultural Research</i> , 55(2–3), 230–281. [Electronic document]. Access: https://doi.org/10.1177/10693971211014468		
	5	Kaszynska P., Coyle D., Dwyer E., et al. (2022) Scoping culture and heritage capital report. DCMS. [Electronic document]. Access: https://www.gov.uk/government/publications/scoping-culture-and-heritage-capital-report/scoping-culture-and-heritage-capital-report		
	Course coordinator	Mirosława Czerniawska, PhD	Date:	2026-05-08

COURSE CARD

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY

Faculty of Engineering Management

Field of study	Management							Level and form of study	full-time second-cycle studies		
A group of modules /specialty	common courses							Education profile	general academic		
Course name	Social Anthropology							Course code	H2Ew1s.002		
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Course type	elective		
The programme is valid from	30							Semester	1		
Introductory courses								ECTS credits	2		
								2026/2027			
Course objectives	The aim of the course is to identify the cultural determinants of human functioning and to prepare students to recognise and diagnose social problems and phenomena, taking into account the anthropological perspective. This knowledge is important from the point of view of the manager's work in a multicultural environment.										
Framework programme content	Culture and social structures – an anthropological approach. Processes of socialisation. Family, gender and kinship. The functioning of people in culturally diverse societies. Transformations of cultural mentality. Analysis of social relations. Ethnicity, nationalism and intergroup conflicts.										
Other information about the course	---										

	Student workload related to:							Total number of hours	including contact	including practical	
Calculation:	participation in lectures							30	30		
	preparation for the lecture assessment							20			
								Total hours:	50	30	0
								Total ECTS credits:	2	1.2	0.0
								Knowledge	Skills	Social competence	
Expected discipline learning outcomes								ZARZII_W06 (H2_W01); ZARZII_W07 (H2_W02)		ZARZII_K04 (H2_K02)	
Objectives and framework content prepared by	Mirosława Czerniawska, PhD							Date:	08.05.2026		
Implementation in the academic year								2026/2027			
	Lecture										
	1	Discussion of the course card and of the conditions for passing and grading.									
	2	Social anthropology as a scientific discipline concerned with the human being acting within a cultural environment and with the comparative analysis of cultures – introductory issues.									
	3	The theory of society and social structures in the light of social anthropology.									
	4	Enculturation and acculturation. Socialisation from the perspective of culture.									
	5	Concepts of family, gender and kinship.									
	6	Gender – an anthropological perspective.									
Programme content	7	The functioning of people in societies; strategies of survival and of giving life meaning.									
	8	The system of social relations and cultural phenomena – analysis of institutions.									
	9	The system of social relations and cultural phenomena – analysis of values.									
	10	The system of social relations and cultural phenomena – analysis of patterns, symbols and customs.									
	11	The mentality of societies and its transformations in the era of globalisation and multiculturalism (part 1).									
	12	The mentality of societies and its transformations in the era of globalisation and multiculturalism (part 2).									
	13	Analysis of social relations: prejudice and conformity.									
	14	Ethnicity and nationalism. Intergroup conflicts and aggression.									
	15	Course assessment.									
Teaching methods (on-site classes)	L	informative lecture; problem-based lecture; lecture with multimedia presentation									
Teaching methods (online classes)	L	informative lecture; problem-based lecture; lecture with multimedia presentation, using MS Teams									
Forms of crediting	L	written assessment – test									
	The assessment takes the form of a written test. Individual questions are scored.										
	Grading criteria:										
Conditions of crediting	L	5.0	when the student obtains 100–96% points available on the exam								
		4.5	95%–86%								
		4.0	85%–76%								
		3.5	75%–66%								
		3.0	65%–51%								
		2.0	below 51%								
		The grade is raised by ½ for regular attendance at lectures.									

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
	Knowledge: the student knows and understands			
E1	in-depth analysis of social phenomena and problems, taking into account the anthropological perspective	ZARZII_W06 (H2_W01); ZARZII_W07 (H2_W02)		
E2	social structures and social relations, and their cultural determinants	ZARZII_W06 (H2_W01); ZARZII_W07 (H2_W02)		
E3	the importance of cultural, ethnic and ideological diversity for contemporary social relations, including the mechanisms of prejudice, conformism, intergroup conflicts and social changes related to globalization and multiculturalism	ZARZII_W06 (H2_W01); ZARZII_W07 (H2_W02)		
	Skills: the student can			
	Social competences: the student is ready to			
E4	critical reflection on social and cultural phenomena from an anthropological perspective and to take into account the importance of cultural, ethnic and ideological diversity in contemporary society			ZARZII_K04 (H2_K02)

Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	written assessment - test	L
E2	written assessment - test	L
E3	written assessment - test	L
E4	written assessment - test	L
Basic references	1 Burnyeat G., Johansson M.S., An anthropology of the social contract: The political power of an idea Critique of Anthropology 2022, 42(3), 221-237. [Electronic document]. Access: https://doi.org/10.1177/0308275X221120168	
	2 Kozłowski A.C., Taddy M., Evans J.M., The Geometry of Culture: Analyzing the Meanings of Class through Word Embeddings. American Sociological Review 2019, 84 (5), 905-949. [Electronic document]. Access: https://doi.org/10.1177/0003122419877135	
	3 Pedersen M.A., Editorial introduction: Towards a machinic anthropology. Big Data & Society 2023, 10(1). [Electronic document]. Access: https://doi.org/10.1177/20539517231153803	
	4 Rose J.W.W., Forensic social anthropology: an Australian perspective. Journal of the Royal Anthropological Institute 2023, 29, 9-26. [Electronic document]. Access: https://rai.onlinelibrary.wiley.com/doi/full/10.1111/1467-9655.13991	
Supplementary references	1 Attanasi, G., Casoria, F., Centorrino, S., & Urso, G. (2013). Cultural investment, local development and instantaneous social capital: A case study of a gathering festival in the South of Italy. The Journal of Socio-Economics, 47, 228-247 [Electronic document]. Access: https://www.sciencedirect.com/science/article/abs/pii/S1053535713000929?via%3Dihub	
	2 Buggle, J. C. (2020). Growing collectivism: irrigation, group conformity and technological divergence. Journal of Economic Growth, 25(2), 147–193. [Electronic document]. Access: https://doi.org/10.1007/s10887-020-09178-3	
	3 Harkness S., Super C. M. (2021). Why understanding culture is essential for supporting children and families. Applied Developmental Science, 25(1), 14–25. [Electronic document]. Access: https://doi.org/10.1080/10888691.2020.1789354	
	4 Brown H., A holistic approach to valuing culture in seven domains. Journal of Cultural Management and Cultural Policy 2025, 11(2), 2025, 230-255. [Electronic document]. Access: https://doi.org/10.1177/27018466251367000	
	5 Lansford J. E., Annual research review: Cross-cultural similarities and differences in parenting. The Journal of Child Psychology and Psychiatry 2021, 63(4), 466–479. [Electronic document]. Access: https://doi.org/10.1111/jcpp.13539	

Course coordinator	Mirosława Czerniawska, PhD	Date:	2026-05-08
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BIAŁYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management				
Field of study				Management				Level and form of study		full-time second degree studies				
A group of modules /specialty								Education profile		general academic				
Course name				English				Course code		L2Eza1s.100a				
								Course type		elective				
Course form(s) and number of hours				L	C	LC	P	SW	FW	S	Semester		1	
				30				ECTS credits		2				
The programme is valid from								2026/2027						
Introductory courses														
Course objectives				Improving language skills (listening, reading, interaction, production, writing) at B2+ level or higher, in accordance with the Common European Framework of Reference for Languages. Stimulating curiosity about the fundamental dilemmas of contemporary civilization and the issues of the field of study. Expanding specialist terminology in the field of study.										
Framework programme content				Topics related to academic life, current problems of social life and dilemmas of contemporary civilization and issues of the field of study. Linguistic and grammatical issues occurring in the discussed texts. Specialist terminology in the field of study. Practicing the form of a multimedia presentation related to the scope of the field of study.										
Other information about the course														
				Student workload related to:						Total number of hours		including contact	including practical	
Calculation:				participation in other forms of activities						30		30	30	
				independent realization of tasks resulting from the scope of the diploma thesis						20		0	20	
				Total number of hours:						50		30	50	
				Total number of ECTS credits:						2		1.2	2.0	
Expected discipline learning outcomes										Knowledge		Skills	Social competence	
												ZARZII_U08;	ZARZII_U10	
Objectives and framework content prepared by				Sylvia Dobkowska, MA; Dorota Śleszyńska, MA						Date:		07.08.2026 r.		
Implementation in the academic year				2026/2027										
				Classes										
				1 Overview of the course syllabus, assessment criteria and requirements for passing the course.										
				2 Active job-seeking – a discussion on experiences and challenges associated with the job application process. The labour market situation in management.										
				3 Guidelines for writing a cover letter and CV – exercises in listening comprehension and reading comprehension. Vocabulary tasks.										
				4 Job interview simulation. Use of questions.										
				5 Company management – aspects relating to the company's structure and operations based on a selected company.										
				6 Effective communication in the workplace and during business meetings. Revision before the final written test.										
				7 Written test 1.										
				8 Innovation in the workplace. The use of the latest technologies in management.										
				9 Public speaking. Presentation styles. Vocabulary used to support arguments. Challenges of modern civilisation.										
				10 Teamwork – discussion and vocabulary exercises on teamwork / effective collaboration. Corporate cybersecurity.										
				11 Specialist texts in the field of management. Specialist terminology.										
				12 Revision for the final test. Consolidation of key concepts in the field of management.										
				13 Written test 2.										
				14 Oral assessment: multimedia presentations – management dilemmas – social, economic, cultural, psychological, legal, ethical.										
				15 Oral assessment: multimedia presentations – management dilemmas – social, economic, cultural, psychological, legal, ethical.										
Teaching methods (on-site classes)				C subject exercises; text analysis with discussion; project method;										
Teaching methods (online classes)				-										
Forms of crediting				C language test; oral statement; multimedia presentation;										

Conditions of crediting	C	pass with a grade: language test 1 (30 points); language test 2 (30 points); speaking in class (40 points) / grading scale: 91-100 points (5.0); 81-90 points (4.5); 71-80 points (4.0); 61-70 points (3.5); 51-60 points (3.0);		
Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
Skills: the student can				
E1	use English, in accordance with the requirements specified for level B2+ of the Common European Framework of Reference for Languages.	ZARZII_U08; ZARZII_U10		
E2	understand texts and statements relating to various issues of the contemporary world, including those containing specialist terminology within the field of study.	ZARZII_U08; ZARZII_U10		
E3	obtain information from various English-language sources, using it correctly in formulating opinions on the subject.	ZARZII_U08; ZARZII_U10		
E4	prepare and present a multimedia presentation related to the field of study.	ZARZII_U08; ZARZII_U10		
Social competence: the student is ready to				
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	test examination; oral examination;	C		
E2	test examination;	C		
E3	test examination; oral examination;	C		
E4	preparing and delivering a multimedia presentation;	C		
Basic references	1 Dubicka, I., Rosenberg M., O'Keeffe, M., Dignen, B., Hogan, M., Wright, L., Business Partner: B2+ with Online Practice, Pearson Education, Harlow 2021			
Supplementary references	1 Dubicka, I., Rosenberg M., O'Keeffe, M., Dignen, B., Hogan, M., Business Partner: C1 with Online Practice, Pearson Education, Harlow 2021			
	2 Business English Premier Lessons, https://english-dashboard.pearson.com			
	3 ESL Brains, https://eslbrains.com			
	4 Longman Dictionary of Contemporary English Online https://www.ldoceonline.com			
	5 Online Collocation Dictionary https://www.freecollocation.com			
	6 Internet sources and materials			
Course coordinator	Dorota Śleszyńska, MA	Date:	5/7/2026	

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management					
Field of study				Management						Level and form of study		full-time second degree studies			
A group of modules /specialty										Education profile		general academic			
Course name				German						Course code		L2Eza1s.100n			
										Course type		elective			
Course form(s) and number of hours				L	C	LC	P	SW	FW	S	Semester		1		
				30						ECTS credits		2			
The programme is valid from				2026/2027											
Introductory courses															
Course objectives				Improving language skills (listening, reading, interaction, production, writing) at B2+ level or higher, in accordance with the Common European Framework of Reference for Languages. Stimulating curiosity about the fundamental dilemmas of contemporary civilization and the issues of the field of study. Expanding specialist terminology in the field of study.											
Framework programme content				Topics related to academic life, current problems of social life and dilemmas of contemporary civilization and issues of the field of study. Linguistic and grammatical issues occurring in the discussed texts. Specialist terminology in the field of study. Practicing the form of a multimedia presentation related to the scope of the field of study.											
Other information about the course															
				Student workload related to:						Total number of hours		including contact		including practical	
				participation in other forms of activities						30		30		30	
Calculation:				independent realization of tasks resulting from the scope of the diploma thesis						20		0		20	
				Total number of hours:						50		30		50	
				Total number of ECTS credits:						2		1.2		2.0	
										Knowledge		Skills		Social competence	
Expected discipline learning outcomes										ZARZII_U08; ZARZII_U10					
Objectives and framework content prepared by				Sylwia Dobkowska, MA; Dorota Śleszyńska, MA						Date: 07.05.2026					
Implementation in the academic year				2026/2027											
				Classes											
				1 Overview of the course syllabus, assessment criteria and requirements for passing the course.											
				2 Active job-seeking – a discussion on experiences and challenges associated with the job application process. The labour market situation in management.											
				3 Guidelines for writing a cover letter and CV – exercises in listening comprehension and reading comprehension. Vocabulary tasks.											
				4 Job interview simulation. Use of questions.											
				5 Company management – aspects relating to the company's structure and operations based on a selected company.											
				6 Effective communication in the workplace and during business meetings. Revision before the final written test.											
				7 Written test 1.											
				8 Innovation in the workplace. The use of the latest technologies in management.											
				9 Public speaking. Presentation styles. Vocabulary used to support arguments. Challenges of modern civilisation.											
				10 Teamwork – discussion and vocabulary exercises on teamwork / effective collaboration. Corporate cybersecurity.											
				11 Specialist texts in the field of management. Specialist terminology.											
				12 Revision for the final test. Consolidation of key concepts in the field of management.											
				13 Written test 2.											
				14 Oral assessment: multimedia presentations – management dilemmas – social, economic, cultural, psychological, legal, ethical.											
				15 Oral assessment: multimedia presentations – management dilemmas – social, economic, cultural, psychological, legal, ethical.											
Teaching methods (on-site classes)				C subject exercises; text analysis with discussion; project method;											

Teaching methods (online classes)	-	
Forms of crediting	C	language test; oral statement; multimedia presentation;
Conditions of crediting	C	pass with a grade: language test 1 (30 points); language test 2 (30 points); speaking in class (40 points) / grading scale: 91-100 points (5.0); 81-90 points (4.5); 71-80 points (4.0); 61-70 points (3.5); 51-60 points (3.0);
Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study
		Knowledge Skills Social competence
	Knowledge: the student knows and understands	
	Skills: the student can	
E1	use German, in accordance with the requirements specified for level B2+ of the Common European Framework of Reference for Languages.	ZARZII_U08; ZARZII_U10
E2	understand texts and statements relating to various issues of the contemporary world, including those containing specialist terminology within the field of study.	ZARZII_U08; ZARZII_U10
E3	obtain information from various German-language sources, using it correctly in formulating opinions on the subject.	ZARZII_U08; ZARZII_U10
E4	prepare and present a multimedia presentation related to the field of study.	ZARZII_U08; ZARZII_U10
	Social competence: the student is ready to	
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	<i>test examination; oral examination;</i>	C
E2	<i>test examination;</i>	C
E3	<i>test examination; oral examination;</i>	C
E4	<i>preparing and delivering a multimedia presentation;</i>	C
Basic references	1 Schluter S., Im Berufssprachkurs C1 Deutsch als Zweitsprache / Kurs-und Arbeitsbuch plus interactive Version, Hueber 2023	
	1 Hohmann S., Deutsche Grammatik mal vier B1+ - C1, Klett Sprachen GmbH, Stuttgart 2025	
Supplementary references	2 Beza S., Nowe repetytorium z gramatyki języka niemieckiego dla średniozaawansowanych i zaawansowanych B1/C1, PWN, Warszawa 2023	
	3 Online dictionary PONS https://pl.pons.com	
	4 Internet sources and materials	
Course coordinator	Artur Kuźmicz, MA	Date: 5/7/2026

BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management																																							
Field of study					Management					Level and form of study					full-time second degree studies																																		
A group of modules /specialty										Education profile					general academic																																		
Course name					Russian					Course code					L2Eza1s.100r																																		
										Course type					elective																																		
Course form(s) and number of hours					L C LC P SW FW S					Semester					1																																		
					30					ECTS credits					2																																		
The programme is valid from										2026/2027																																							
Introductory courses																																																	
Course objectives					Improving language skills (listening, reading, interaction, production, writing) at B2+ level or higher, in accordance with the Common European Framework of Reference for Languages. Stimulating curiosity about the fundamental dilemmas of contemporary civilization and the issues of the field of study. Expanding specialist terminology in the field of study.																																												
Framework programme content					Topics related to academic life, current problems of social life and dilemmas of contemporary civilization and issues of the field of study. Linguistic and grammatical issues occurring in the discussed texts. Specialist terminology in the field of study. Practicing the form of a multimedia presentation related to the scope of the field of study.																																												
Other information about the course																																																	
Calculation:										Student workload related to:																																							
										Total number of hours										including contact										including practical																			
										participation in other forms of activities										30										30										30									
										independent realization of tasks resulting from the scope of the diploma thesis										20										0										20									
										Total number of hours:										50										30										50									
Total number of ECTS credits:										2										1.2										2.0																			
Expected discipline learning outcomes										Knowledge										Skills										Social competence																			
																				ZARZII_U08; ZARZII_U10																													
Objectives and framework content prepared by					Sylvia Dobkowska, MA; Dorota Śleszyńska, MA										Date:					07.05.2026																													
Implementation in the academic year										2026/2027																																							
Classes																																																	
1 Overview of the course syllabus, assessment criteria and requirements for passing the course.																																																	
2 Active job-seeking – a discussion on experiences and challenges associated with the job application process. The labour market situation in management.																																																	
3 Guidelines for writing a cover letter and CV – exercises in listening comprehension and reading comprehension. Vocabulary tasks.																																																	
4 Job interview simulation. Use of questions.																																																	
5 Company management – aspects relating to the company's structure and operations based on a selected company.																																																	
6 Effective communication in the workplace and during business meetings. Revision before the final written test.																																																	
7 Written test 1.																																																	
8 Innovation in the workplace. The use of the latest technologies in management.																																																	
9 Public speaking. Presentation styles. Vocabulary used to support arguments. Challenges of modern civilisation.																																																	
10 Teamwork – discussion and vocabulary exercises on teamwork / effective collaboration. Corporate cybersecurity.																																																	
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12 Revision for the final test. Consolidation of key concepts in the field of management.																																																	
13 Written test 2.																																																	
14 Oral assessment: multimedia presentations – management dilemmas – social, economic, cultural, psychological, legal, ethical.																																																	
15 Oral assessment: multimedia presentations – management dilemmas – social, economic, cultural, psychological, legal, ethical.																																																	
Teaching methods (on-site classes)					C subject exercises; text analysis with discussion; project method;																																												
Teaching methods (online classes)					-																																												
Forms of crediting					C language test; oral statement; multimedia presentation;																																												

Conditions of crediting	C	pass with a grade: language test 1 (30 points); language test 2 (30 points); speaking in class (40 points) / grading scale: 91-100 points (5.0); 81-90 points (4.5); 71-80 points (4.0); 61-70 points (3.5); 51-60 points (3.0);
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Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
Skills: the student can				
E1	use Russian, in accordance with the requirements specified for level B2+ of the Common European Framework of Reference for Languages.		ZARZII_U08; ZARZII_U10	
E2	understand texts and statements relating to various issues of the contemporary world, including those containing specialist terminology within the field of study.		ZARZII_U08; ZARZII_U10	
E3	obtain information from various Russian-language sources, using it correctly in formulating opinions on the subject.		ZARZII_U08; ZARZII_U10	
E4	prepare and present a multimedia presentation related to the field of study.		ZARZII_U08; ZARZII_U10	
Social competence: the student is ready to				
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	test examination; oral examination;			C
E2	test examination;			C
E3	test examination; oral examination;			C
E4	preparing and delivering a multimedia presentation;			C
Basic references	1 Łukasiak K., Oshchepkova A., Rosyjski w tłumaczeniach. Gramatyka 4 (B2-C1), Preston Publishing, Warszawa 2021			
Supplementary references	1 Online dictionary PONS https://pl.pons.com			
	2 Russian-Polish dictionary online https://ling.pl			
	3 Internet sources and materials			
Course coordinator	Irena Kamińska, MA	Date:	5/7/2026	

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management			
Field of study		Management						Level and form of study		full-time second degree studies			
A group of modules /specialty		common courses						Education profile		general academic			
Course name		Modern concepts of management						E		Course code		Z2Eza1s.001	
										Course type		mandatory	
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester		1		
		30	30						ECTS credits		4		
The programme is valid from										2026/2027			
Introductory courses										Z1za1n.004			
Course objectives		Providing students with theoretical knowledge and practical skills in the field of identifying and implementing modern management concepts, enabling effective management of an organization. Enabling students to acquire the ability to select and implement contemporary management concepts depending on the needs of the organization.											
Framework programme content		An overview and analysis of contemporary management concepts from both theoretical and practical perspectives. The evolution of management approaches, the importance of human factors, situational and systems approaches, as well as current trends in management. The essence of concepts based on quality, processes, the customer, and lean management. Issues of change management in the implementation of modern management concepts, including social and environmental responsibility, digitalization, innovation, and the integration of management systems, leading to an understanding of the concept of the organization of the future. Tutorial classes are application-oriented and aim to develop skills in the practical use of the discussed concepts. Students analyze case studies, compare different management approaches, design solutions in the areas of process management, quality, and customer experience, and participate in simulations and workshops (e.g., design thinking). The classes develop analytical and decision-making competencies, as well as teamwork skills and the ability to critically evaluate contemporary management practices.											
Other information about the course		content of the course refers to the principles of sustainable development the course is related to the scientific activity conducted at the University											
Calculation:		Student workload related to:						Total number of hours		including contact		including practical	
		participation in lectures						30		30			
		participation in other forms of activities						30		30		30	
		participation in exams organized outside the scheduled classes						2		2			
		preparation for the exam						8					
		preparation for classes						30				30	
		Total number of hours:						100		62		60	
		Total number of ECTS credits:						4		2.5		2.4	
Expected discipline learning outcomes								Knowledge		Skills		Social competence	
								ZARZII_W04 ZARZII_W05 ZARZII_W06		ZARZII_U04 ZARZII_U05		ZARZII_K02 ZARZII_K03	
Objectives and framework content prepared by		dr Urszula Kobylińska						Date:		2026-04-29			
Implementation in the academic year		2026/2027											
S		Lecture											
		1 Evolution of management concepts and their implications for modern management concepts											
		2 Human-centered management concepts – human relations, psychological approach											
		3 Situational and systems approaches in management											
		4 Management fashion											
		5 Change management in the implementation of contemporary management concepts											
		6 Quality management concepts											
		7 Process-based management concepts											
		8 Management concepts focused on organizational benchmarking											
		9 Customer-oriented management concepts											
		10 Lean management concepts											
		11 Social and environmental responsibility of a modern organization											
		12 Digitization-based management concepts											
		13 Innovation-based management concepts											
		14 Integration of management systems in an organization											
		15 The organization of the future											
		Classes											
		1 Introduction to management concepts. Old vs. new management concepts – similarities, differences, key changes											

	2	Analysis of schools, approaches, and orientations in management science
	3	Selection of management style appropriate to the organizational situation
	4	Trend analysis (e.g., agile, teal organizations)
	5	Simulation of implementing change in an organization
	6	Comparative analysis of quality-oriented concepts in contemporary organizations
	7	Process mapping and improvement based on selected organizations
	8	Benchmarking based on selected organizations
	9	Designing a customer persona and Customer Journey Map
	10	Identification of waste in an organization
	11	Evaluation of an organization's social and environmental activities
	12	Analysis of digitalization models in contemporary organizations
	13	Idea generation in a modern organization using design thinking
	14	Analysis of case studies of enterprises with implemented integrated management systems
	15	Summary of classes, final test
Teaching methods (on-site classes)	L	Interactive lecture, lecture with a multimedia presentation
	C	Text analysis with discussion, practical project, presentation
Teaching methods (online classes)	L	Interactive lecture, lecture with a multimedia presentation
Forms of crediting	L	Written exam
	C	Assessment of a team-based practical project, presentation assessment, test

	The final grade is based on the number of points obtained by the student in the written exam. Assessment criteria:	
	5.0 – 100–91% of the total possible points	
L	4.5 – 90–81%	
	4.0 – 80–71%	
	3.5 – 70–61%	
	3.0 – 60–51%	
	2.0 – below 51%"	
Conditions of crediting	The student is required to actively participate in classes, submit the project by the designated deadline and present it, and complete a written test. The final grade is based on the total number of points obtained by the student.	
	Assessment criteria:	
C	5.0 – 100–91% of the total possible points obtained during classes	
	4.5 – 90–81%	
	4.0 – 80–71%	
	3.5 – 70–61%	
	3.0 – 60–51%	
	2.0 – below 51%"	

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	in depth, contemporary management concepts and theories, in particular approaches focused on quality, processes, the customer, benchmarking, lean management, digitalization, and innovation, as well as their application in the functioning of modern organizations.	ZARZII _W04,		
E2	The main development trends in management and quality sciences, including the impact of globalization, digital transformation, sustainable development, corporate social responsibility (CSR), and new organizational models (e.g., network and virtual organizations) on the way organizations are managed.	ZARZII _W05,		
E3	in depth, contemporary dilemmas in management, including those related to change management, the role of people in organizations, business ethics, social and environmental responsibility, as well as challenges arising from a dynamic environment and technological development.	ZARZII _W06,		
Skills: the student can				
E4	select and apply advanced management methods and tools, including concepts such as quality management, process-based approaches, benchmarking, lean management, as well as tools supporting digitalization and innovation in an organization.		ZARZII _U04,	

E5	effectively manage an organization's tangible and intangible resources using process-based, quality-oriented, and strategic approaches, taking into account customer needs, the principles of sustainable development, and the challenges of the contemporary environment (e.g., digitalization, market changes).	ZARZII_U05,
Social competence: the student is ready to		
E6	recognize the importance of knowledge in the field of modern management concepts in solving organizational problems, and to critically analyze available solutions, including seeking expert opinions and using best practices in complex and uncertain situations.	ZARZII_K02,
E7	undertake actions for the benefit of the organization and its social environment, taking into account the principles of corporate social and environmental responsibility (CSR), as well as to initiate and support activities that promote sustainable development and the implementation of modern management concepts.	ZARZII_K03
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	<i>written exam</i>	L
E2	<i>written exam</i>	L
E3	<i>written exam</i>	L
E4	<i>project preparation; presentation; active participation in classes; test</i>	C
E5	<i>project preparation; presentation; active participation in classes; test</i>	C
E6	<i>project preparation; presentation; active participation in classes</i>	C
E7	<i>project preparation; presentation; active participation in classes</i>	C
Basic references	1 Chen J., Brem A., Viardot E., Wong P. K. (Eds.), The Routledge companion to innovation management. Routledge, 2019.	
	2 Robbins S.P., Coulter M., Martocchio J.J., Long L.K., Management, Harlow: Pearson Education, 2018.	
	3 Sułkowski Ł., Lenart-Gansiniec R., Paradigm shifts in management theory. Routledge, 2025.	
Supplementary references	1 https://www.bain.com/insights/management-tools-and-trends-2023/	
	2 Global Innovation Index report, 2026	
Course coordinator	dr Urszula Kobylińska	Date: 2026-04-29

COURSE DESCRIPTION CARD

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management				
Field of study		Management						Level and form of study		full-time second degree studies				
A group of modules /specialty		common courses						Education profile		general academic				
Course name		Entrepreneurship and sources of financing for business activity						Course code		Z2Eza1s.002				
								Course type		mandatory				
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester		1			
		30	30						ECTS credits		4			
The programme is valid from 2026/2027														
Introductory courses														
Course objectives		Developing entrepreneurial attitudes and enhancing the knowledge and skills necessary for undertaking economic and social initiatives.												
Framework programme content		The essence and types of entrepreneurship. The role of entrepreneurship in a market economy. Entrepreneurship as a form of human activity. Determinants of entrepreneurship development. Sources of financing for business activity.												
Other information about the course		the course is related to the scientific activity conducted at the University												
Calculation:	Student workload related to:								Total number of hours		including contact		including practical	
	participation in lectures								30		30			
	participation in other forms of activities								30		30		30	
	preparation for passing a lecture								4					
	preparation for classes								26				26	
	preparation for the completion of classes								4				4	
	preparation of a presentation								6				6	
	Total number of hours:								100		60		66	
	Total number of ECTS credits:								4		2.4		2.6	
Expected discipline learning outcomes								Knowledge		Skills		Social competence		
								ZARZII_W03; ZARZI_W09		ZARZII_U03; ZARZII_U05; ZARZII_U09		ZARZII_K04		
Objectives and framework content prepared by		Zofia Kołoszko-Chomentowska, PhD						Date :		05.05.2026				
Implementation in the academic year		2026/2027												
Lecture														
Programme content	1	Discussion of course completion requirements and assessment methods. The need for entrepreneurship – introductory issues.												
	2	The essence and types of entrepreneurship												
	3	The role of entrepreneurship in a market economy												
	4	Entrepreneurship in economic theory (according to Peter Drucker, Richard Cantillon, Frank Knight and Joseph Schumpeter)												
	5	Entrepreneurship as a form of human activity. Praxeological principles of entrepreneurship												
	6	Innovation and organizational entrepreneurship												
	7	Determinants of entrepreneurship development (political, legal-fiscal, and socio-cultural factors)												
	8	Entrepreneurship in a knowledge-based economy												
	9	The skill of motivation												
	10	The small and medium-sized enterprise sector												
	11	Sources of financing business activity												
	12	Analysis of opportunities and threats for entrepreneurship												
	13	Risk and entrepreneurship												
	14	Entrepreneurial attitudes and strategies based on examples of outstanding entrepreneurs												
	15	Is it worth being entrepreneurial? Written final test												
Classes														
	1	Discussion of course completion requirements and assessment methods. The need for entrepreneurship – introductory issues.												
	2	Factors determining business success and failure												
	3	How to start a business - procedures and requirements												
	4	Business idea development												
	5	Elevator pitch as a way of presenting a business idea												
	6	Business idea development												
	7	Team building. The Marshmallow Challenge as an example of group cooperation												
	8	Creating business models. Franchising												
	9	Costs of running a business												

	10	Sources of financing own business	
	11	Pitch deck as a method of attracting investors.	
	12	Management and marketing	
	13	Investment profitability assessment	
	14	SWOT analysis	
	15	Business idea presentations – final assessment	
Teaching methods (on-site classes)	L	lecture with multimedia presentation, conversational lecture	
	C	subject-oriented practical classes; discussions; presentations; group work	
Teaching methods (online classes)	L	lecture with multimedia presentation, conversational lecture	
	-		
Forms of crediting	L	written test	
	C	solving tests and problem-based tasks; presentations	
Conditions of crediting	L	The lecture course is completed with a written test consisting of closed-ended questions. One point is awarded for each correct answer. The final grade is assigned according to the following scale: 51%–60% of the total number of points – satisfactory (3.0); 61%–70% – satisfactory plus (3.5); 71%–80% – good (4.0); 81%–90% – good plus (4.5); 91%–100% – very good (5.0).	
	C	The final grade for the practical classes is based on the total number of points obtained for completed tasks and prepared presentations and is assigned according to the following scale: 51%–60% of the total number of points – satisfactory (3.0); 61%–70% – satisfactory plus (3.5); 71%–80% – good (4.0); 81%–90% – good plus (4.5); 91%–100% – very good (5.0).	
Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study	
		Knowledge	Skills Social competence
	Knowledge: the student knows and understands		
E1	the role and significance of entrepreneurship in shaping functional and strategic processes within various types of organizations	ZARZII_W03	
E2	at an advanced level, the concepts and models of entrepreneurship	ZARZI_W09	
	Skills: the student can		
E3	identify and analyze determinants and evaluate factors influencing the success or failure of a selected venture.	ZARZII_U03	
E4	prepare elements of planning for a selected venture based on market needs analysis, availability of resources, and sources of financing	ZARZII_U05	
E5	cooperate with others in preparing a project and presenting the outcomes of the work	ZARZII_U09	
	Social competence: the student is ready to		
E6	undertake entrepreneurial initiatives and to think in a creative and innovative way	ZARZII_K04	
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification	
E1	written test	L	
E2	written test	L	
E3	solving tests and problem-based tasks; presentations	C	
E4	solving tests and problem-based tasks; presentations	C	
E5	solving tests and problem-based tasks; presentations	C	
E6	solving tests and problem-based tasks; presentations	C	
Basic references	1 Pruthi S., Mitra J., Global Entrepreneurship and Innovation, Saga Publications, London 2023.		
	2 Burms P., Corporate Entrepreneurship and Innovation, Red Global Press: Macmillan Education, London 2020.		
	3 Scott J.M., Deakins D., Entrepreneurship, Sage Publications Ltd, London 2024.		
Supplementary references	1 Chahine T.: Social Entrepreneurship: Building Impact Step by Step. Routledge 2022.		
	2 El Zein S.A., Morillo Ch., Business Entrepreneurship and Innovation: The Advocacy for a Tech-Corporate Ecosystem, Springer 2025.		
	3 Burms P., Entrepreneurship and Small Business: Start-up, Growth and Maturity. Red Global Press: Macmillan Education, London 2022.		
Course coordinator	Zofia Kołoszko-Chomentowska, PhD	Date:	5/5/2026

COURSE DESCRIPTION CARD

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY								Faculty of Engineering Management	
Field of study	Management							Level and form of study	full-time second degree studies
A group of modules /specialty	common courses							Education profile	general academic
Course name	Knowledge capital in the era of the digital economy							Course code	Z2Eza1s.003
								Course type	mandatory
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Semester	1
	30	30						ECTS credits	4
The programme is valid from								2026/2027	
Introductory courses									

Course objectives	The aim of the course is to develop an in-depth understanding of the nature, attributes, and typology of knowledge, as well as knowledge management processes and strategies in organizations operating within the digital economy. The course develops the ability to analyze and critically evaluate knowledge management processes and their integration with the strategic objectives of organizations, taking into account the role of modern technologies. It also fosters the ability to make decisions and formulate solutions in complex and dynamic organizational environments.
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Framework programme content	The nature and significance of knowledge in organizations, its attributes and typologies; concepts and determinants of knowledge management; knowledge management processes including the locating, acquisition, development, sharing, dissemination, utilization, and archiving of knowledge; digital technologies supporting knowledge management (information systems, collaboration platforms, data-driven and AI-based solutions); knowledge management strategies and their integration with organizational strategy; the role of organizational culture and leadership; knowledge management in conditions of digital transformation and uncertainty; methods of measurement and evaluation of effectiveness. The evolution of management paradigms from the knowledge economy toward an intelligent digital economy; foundational technologies and tools intensifying management processes; new business models, trends, and megatrends shaping the contemporary market; concepts of sustainable and human-centric organizational management; determinants of the roles of leaders, managers, and employees in the digital environment; mechanisms of synergy between technology and human potential in work processes; shaping investment policies and innovation strategies under conditions of digital transformation.
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Other information about the course	the course is related to the scientific activity conducted at the University
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Calculation:	Student workload related to:	Total number of hours	including contact	including practical
	participation in lectures	30	30	
	participation in other forms of activities	30	30	30
	preparation for passing a lecture	6		
	preparation for classes	24		24
	preparation of a presentation	10		10
	Total number of hours:	100	60	64
Total number of ECTS credits:		4	2.4	2.6

Expected discipline learning outcomes	Knowledge	Skills	Social competence
	ZARZII_W02; ZARZII_W06	ZARZII_U01; ZARZII_U05	ZARZII_K05

Objectives and framework content prepared by	Justyna Grześ-Bukłaho, PhD; Marta Małecka-Dobrogowska, PhD	Date:	2026-05-05
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Implementation in the academic year	2026/2027
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Lecture	
1	Introductory issues – the importance of knowledge in organizations and the digital economy. The nature and attributes of knowledge.
2	Typologies of knowledge. The role of data and information in the knowledge management process.
3	Models of knowledge creation and conversion in organizations. Knowledge management processes – an overview and integration of activities within organizations.
4	Locating and acquiring knowledge. Developing and sharing knowledge. Using and archiving knowledge.
5	Digital technologies in knowledge management – information systems and collaboration platforms.
6	Knowledge management strategies – models and their integration with organizational strategy.
7	Knowledge management in conditions of digital transformation and environmental uncertainty. Measurement and evaluation of knowledge management effectiveness.
8	The evolution of economic paradigms: the transition from a knowledge-based economy to an intelligent digital economy and its impact on organizational management and smart communities.
9	Technological foundations of digital transformation: foundational technologies and tools intensifying management processes in the contemporary economy.
10	The dynamics of market changes: new business models, trends, and megatrends shaping the digital economy.

Programme content	11	Contemporary management concepts: the paradigm of sustainable development and the human-centric approach in organizations (Industry/Economy 5.0).		
	12	Human capital in the era of digitalization: new roles, competencies, and determinants of work for leaders, managers, and employees.		
	13	The synergy of technology and human potential: organizational personnel and the challenges of modern technologies in organizations.		
	14	Innovation and investment strategies: shaping organizational policies for financing and implementing innovations in a digital environment.		
	15	Written examination.		
	Classes			
	1	Knowledge management in organizations – practical aspects. Case study analysis of knowledge-based organizations in the digital economy.		
	2	Classification of knowledge resources in organizations and analysis of the relationships between data, information, and knowledge – problem-solving task.		
	3	Models of knowledge creation and conversion – case study.		
	4	Diagnosis of knowledge management processes and identification of barriers and gaps – problem-solving task.		
	5	Selection of digital technologies supporting knowledge management – case study.		
	6	Selection and justification of knowledge management strategies in a specific organizational context.		
	7	Knowledge management under conditions of digital transformation and uncertainty – problem-solving task.		
	8	Political, economic, social, technological, ethical, and legal aspects of knowledge management. Team-based PESTEL analysis.		
	9	Key challenges and development opportunities in the era of 5.0 transformation – identification of selected organizational experiences; moderated discussion.		
10	Digital economy technologies and their implementation – case studies.			
11	Business models in contemporary organizations operating in the digital economy – problem-solving tasks.			
12	Organizational management models in the digital economy – debate on sustainable, human-centric, and resilient organizations.			
13	Transformation of leaders, managers, and employees in the era of the digital economy – problem-solving task.			
14	Investments in innovation – identification and analysis of selected organizational projects.			
15	Presentation of projects. Summary of semester work.			
Teaching methods (on-site classes)	L	informative lecture; problem-oriented lecture; lecture with multimedia presentation		
	C	practical project; problem-solving tasks; case study; text analysis with discussion		
Teaching methods (online classes)	L	problem-oriented lecture; informative lecture; lecture with multimedia presentation using Microsoft Teams		
	-			
Forms of crediting	L	written assessment in the form of open-ended problem questions and/or multiple-choice test questions		
	C	problem-solving tasks, preparation of a project assignment in the form of a study of a selected issue together with its presentation; class participation		
Conditions of crediting	L	The condition for passing the course is obtaining a positive grade in a written assessment consisting of problem-based open-ended questions and/or test questions, verifying the achievement of the intended learning outcomes. The final grade is determined on the basis of the number of points obtained for individual tasks, in accordance with the adopted assessment criteria: 91–100% – very good (5.0); 81–90% – good plus (4.5); 71–80% – good (4.0); 61–70% – satisfactory plus (3.5); 51–60% – satisfactory (3.0); below 51% – fail (2.0).		
	C	The condition for passing the classes is active participation in class activities and obtaining a positive grade based on the number of points earned for solving consecutive problem-solving tasks and preparing a project assignment in the form of a study of a selected issue together with its presentation. The final grade is determined in accordance with the adopted assessment criteria: 91–100% – very good (5.0); 81–90% – good plus (4.5); 71–80% – good (4.0); 61–70% – satisfactory plus (3.5); 51–60% – satisfactory (3.0); below 51% – fail (2.0).		
Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	in-depth, the concepts and classifications of knowledge resources within an enterprise, as well as advanced knowledge management processes, as elements of the advanced theoretical foundations of managerial activity, taking into account contemporary management dilemmas.	ZARZII_W02; ZARZII_W06		
E2	in-depth the fundamental dilemmas of organizational management in the era of the digital economy, including the identification of the social, economic, legal, and ethical aspects and consequences of current transformational challenges.	ZARZII_W06		
Skills: the student can				
E3	analyze, diagnose, and design solutions in the field of knowledge management in complex and dynamic organizational environments		ZARZII_U01	

E4	make independent and team-based decisions at various stages of the knowledge management process within an organization, taking into account variable and not fully predictable conditions, and justify appropriate solutions	ZARZII_U05
E6	select advanced information and communication technologies of the digital economy appropriate to a given organizational context, and propose management methods and tools tailored to organizational needs and the challenges of the digital economy	ZARZII_U05
Social competence: the student is ready to		
E6	responsibly perform professional roles related to management, including the critical evaluation and conscious use of knowledge, data, and technology in the conditions of the digital economy, taking into account the changing organizational environment	ZARZII_K05
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	<i>written test</i>	L
E2	<i>written test</i>	L
E3	<i>solving problem-based tasks; case study analysis</i>	C
E4	<i>solving problem-based tasks; case study analysis; text analysis with discussion</i>	C
E5	<i>active participation in discussions; proposing development scenarios</i>	C
E6	<i>research and practical project; presentation and moderated discussion</i>	C
Basic references	1 Cegarra-Navarro J. G., Martínez Martínez A., Mondéjar Jiménez J. A., & Wensley A., Distorted Knowledge in the Digital Economy: Reframing the SECI Model to Address Gambling Risks, Journal of the Knowledge Economy. Springer 2026. [Electronic document]. Access: https://link.springer.com/article/10.1007/s13132-026-03274-2	
	2 Abu-El-Hajja R., The convergence of knowledge management, digital innovation and firm performance in the digital economy. Heliyon. Elsevier. 2026 [Electronic document]. Access: https://www.sciencedirect.com/science/article/pii/S2405844026004640	
	3 Integrating knowledge management and digital product passport systems in collaborative ecosystems. Journal of Knowledge Management. Emerald Publishing 2026. [Electronic document]. Access: https://www.emerald.com/jkm/article/30/11/214/1347423/Integrating-knowledge-management-and-digital	
Supplementary references	1 Liu S., Knowledge Management: An Interdisciplinary Approach for Business Decisions, Kogan Page, London, New York 2020.	
	2 Journal of Knowledge Management. [Electronic document]. Access: https://www.emerald.com/jkm	
Course coordinator	<i>Justyna Grześ-Bukłaho, PhD; Marta Małecka-Dobrogowska, PhD</i>	Date: 5/5/2026

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY				Faculty of Engineering Management			
Field of study	Management			Level and form of study	full-time second degree studies		
A group of modules /specialty	common courses			Education profile	general academic		
Course name	Strategic management			Course code	Z2Eza1s.004		
				Course type	mandatory		
Course form(s) and number of hours	L	C	LC	P	SW	FW	S
	15	30					
The programme is valid from	2026/2027						
Introductory courses							

Course objectives	The aim of the course is to deepen students' knowledge of strategic management and to develop their ability to formulate and implement organizational strategies in a dynamic environment. The course focuses on enhancing skills in applying advanced methods and tools of strategic analysis and planning, identifying key success factors, and assessing an organization's competitive position. Students will learn how to design coherent development strategies tailored to the specific characteristics of an organization and its environment, as well as how to prepare and present strategic recommendations. An important objective of the course is also to develop the ability to make strategic decisions under conditions of uncertainty and to integrate knowledge from various areas of organizational functioning. The course also develops competencies in teamwork, communication, and responsibility for decision-making, taking into account ethical principles and the social context of organizational activities.
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Framework programme content	The course covers issues related to the essence and significance of strategic management and its role in the functioning of contemporary organizations. It addresses the fundamental assumptions, principles, and schools of thought in strategic management, as well as the process of strategic management and its models. An important part of the course is the analysis of the organization's environment, including the identification of macroeconomic conditions and the analysis of the sector and competition. This is complemented by an analysis of the organization's internal potential, including its resources and competencies, as well as the use of integrated strategic analysis methods. The course also focuses on formulating the organization's vision, mission, and objectives, as well as on designing strategies at different levels of management. It also discusses the conditions for strategy implementation and the mechanisms of its execution and control.
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Other information about the course	the course is related to the scientific activity conducted at the University
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	Student workload related to:		Total number of hours	including contact	including practical
Calculation:	participation in lectures		15	15	
	participation in other forms of activities		30	30	30
	participation in exams organized outside the scheduled classes		0	0	
	completion of professional training		0	0	0
	preparation for passing a lecture		2.5		
	preparation for classes		27.5		27.5
	Total number of hours:		75	45	58
	Total number of ECTS credits:		3	1.8	2.3

Expected discipline learning outcomes	Knowledge		Skills	Social competence
	ZARZII_W03; ZARZII_W06		ZARZII_U03; ZARZII_U04	ZARZII_K01; ZARZII_K05
Objectives and framework content prepared by	Anna Tomaszuk, PhD		Date:	2026-05-05

Implementation in the academic year	2026/2027
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	Lecture
Programme content	1 Introduction to the course syllabus and assessment requirements for the lecture.
	2 The essence and importance of strategic management in contemporary organizations.
	3 Evolution and main schools of strategic management.
	4 The strategic management process – stages and models.
	5 Macro-environment analysis – non-scenario methods.
	6 Macro-environment analysis – scenario methods.
	7 Competitive environment analysis.
	8 Stakeholder analysis and its role in the strategic process.
	9 Analysis of organizational resources and competencies.
	10 Integrated methods of strategic analysis.
	11 Vision, mission, and strategic objectives of the organization.
	12 Typology of corporate strategies (levels and development directions).
	13 The process of strategy formulation and principles of strategy design.
	14 Strategy implementation, control, and evaluation.
	15 Summary and preparation for the lecture assessment.
	Classes

	1	Introduction to the course syllabus and assessment requirements for classes; introduction to the strategic project.
	2	Macro-environment analysis – part 1.
	3	Macro-environment analysis – part 2.
	4	Porter's Five Forces analysis – part 1.
	5	Porter's Five Forces analysis – part 2.
	6	Scoring assessment of sector attractiveness.
	7	Strategic group mapping.
	8	SWOT/TOWS analysis – part 1.
	9	SWOT/TOWS analysis – part 2.
	10	Key success factors analysis.
	11	Vision, mission, and organizational objectives.
	12	Strategy formulation.
	13	Evaluation of strategy implementation.
	14	Project presentations.
	15	Project summary.
Teaching methods (on-site classes)	L	Information and problem-based lecture with multimedia presentation
	C	Subject-specific classes; practical project
Teaching methods (online classes)	L	Information and problem-based lecture with multimedia presentation on the MsTeams platform
	-	
Forms of crediting	L	Written test
	C	Project; written test

		The grade is based on the number of points obtained by the student. The condition for passing is obtaining at least 51% of the total possible points. The grading scale is as follows: 5.0 (very good) – 91–100% of all possible points obtained in the test 4.5 (good plus) – 81–90% 4.0 (good) – 71–80% 3.5 (satisfactory plus) – 61–70% 3.0 (satisfactory) – 51–60% 2.0 (fail) – below 51%
Conditions of crediting	L	
	C	The student is required to attend classes and complete the project on time. The condition for passing is obtaining at least 51% of the total possible points and achieving all intended learning outcomes. The grading scale is as follows: 5.0 (very good) – 91–100% of all possible points obtained 4.5 (good plus) – 81–90% 4.0 (good) – 71–80% 3.5 (satisfactory plus) – 61–70% 3.0 (satisfactory) – 51–60% 2.0 (fail) – below 51%

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	in-depth knowledge and understanding of key functional and strategic aspects of managing an organization, including the interdependencies between its areas of activity	ZARZII_W03		
E2	understands fundamental dilemmas of contemporary management and their impact on the process of formulating and implementing organizational strategy	ZARZII_W06		
Skills: the student can				
E3	critically analyze and synthesize strategic information and formulate conclusions supporting the decision-making process		ZARZII_U03	
E4	select and apply advanced methods and tools of strategic management in designing and evaluating organizational strategy		ZARZII_U04	
Social competence: the student is ready to				
E5	make an in-depth, critical assessment of their knowledge and of information used in strategic management processes			ZARZII_K01
E6	responsibly perform professional roles related to strategic management, taking into account environmental volatility and the consequences of decisions made			ZARZII_K05
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	written test		L	
E2	written test		L	
E3	project, written test		C	

E4	<i>project, written test</i>	C
E5	<i>project, written test</i>	C
E6	<i>project, written test</i>	C
Basic references	1 Dess G., McNamara G., Eisner A., Sauerwald S., Strategic management: creating competitive advantages, McGraw-Hill, New York 2023.	
	2 David F. R., David F. R., David M. E., Strategic management: concepts and cases: a competitive advantage approach (17th ed.), Pearson Education, Harlow 2020.	
	3 Barney J. B., Hesterly W.S., Strategic management and competitive advantage: Concepts (6th global ed.), Pearson Education, Harlow 2020.	
Supplementary references	1 Dess, G., McNamara G., Eisner A., Sauerwald S., Strategic management: creating competitive advantages (11th ed.), McGraw-Hill Education, New York 2023.	
	2 Joyce P., Strategic management and governance: Strategy execution around the world, Routledge/Taylor & Francis Group, New York–London 2022.	
Course coordinator	<i>Anna Tomaszuk, PhD</i>	Date: 5/5/2026

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management				
Field of study		Management						Level and form of study		full-time second degree studies				
A group of modules /specialty		common courses						Education profile		general academic				
Course name		International marketing						E	Course code		Z2Eza1s.005			
									Course type		mandatory			
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester		1			
		15	30						ECTS credits		3			
The programme is valid from										2026/2027				
Introductory courses														
Course objectives		Familiarizing students with the nature, specificity and importance of international marketing in the activities of enterprises. Developing the ability to analyse the conditions of enterprises' operations in foreign markets, assess the possibilities of conducting marketing activities in an international environment, and formulate recommendations regarding their application in business practice.												
Framework programme content		The concept, specificity and importance of international marketing. Conditions of enterprises' marketing activities in foreign markets. Buyer behaviour and cultural differences in international marketing. Analysis of foreign markets and enterprises' opportunities to operate in an international environment. Strategies and instruments of marketing activities in international markets. Evaluation and adaptation of marketing activities in business practice.												
Other information about the course		the course is related to the scientific activity conducted at the University												
Calculation:		Student workload related to:							Total number of hours		including contact		including practical	
		participation in lectures							15		15			
		participation in other forms of activities							30		30		30	
		participation in exams organized outside the scheduled classes							2		2			
		preparation for the exam							3					
		preparation for classes							25				25	
		Total number of hours:							75		47		55	
Total number of ECTS credits:							3		1.9		2.2			
Expected discipline learning outcomes									Knowledge		Skills		Social competence	
									ZARZII_W03; ZARZII_W07		ZARZII_U02; ZARZII_U03; ZARZII_U04		ZARZII_K01	
Objectives and framework content prepared by		Anna Matwiejczyk, PhD; Sandra Snarska, MSc Eng							Date:		2026-05-05			
Implementation in the academic year										2026/2027				
Programme content		Lecture												
		1 International marketing - introductory issues												
		2 Internationalisation of the enterprise as a context for marketing decisions in foreign markets												
		3 The international environment of the enterprise and its importance for marketing decisions												
		4 Cultural determinants of buyer behaviour and marketing decisions in international markets												
		5 Information and marketing research in international markets												
		6 Segmentation of international markets and selection of target markets												
		7 Strategies for enterprises' entry into foreign markets and their marketing consequences												
		8 Standardisation and adaptation of marketing activities in international markets												
		9 Product decisions and offer management in international markets												
		10 International pricing decisions of enterprises												
		11 Management of marketing channels and relationships with partners in foreign markets												
		12 Marketing communication in international markets: adaptation and consistency of the message												
		13 Brand, positioning and reputation of the enterprise in the international market												
		14 Digital transformation and new technologies in international marketing												
		15 Organisation, coordination and control of the enterprise's marketing activities in international markets												
		Classes												
		1 Introductory issues. Assessment of the premises, benefits and risks of enterprise internationalisation based on market examples												
		2 Diagnosis of the enterprise's international orientation based on market examples												
		3 Analysis of the enterprise's international environment using selected analytical tools												
4 Selection and evaluation of sources of information on foreign markets														
5 Designing the assumptions of marketing research in a foreign market														
6 Assessment of the attractiveness of foreign markets and selection of the target market														
7 Selection of a foreign market entry strategy according to the enterprise's situation														
8 Selection of methods for adapting marketing decisions to cultural differences in a foreign market														

	9	Designing the assumptions of an international marketing-mix composition, taking into account standardisation and adaptation
	10	Developing a proposal for positioning a product or brand in a foreign market, taking into account the country of origin
	11	Evaluation and adaptation of marketing communication activities to the conditions of a foreign market
	12	Developing the assumptions of an enterprise's international marketing strategy
	13	Analysis of the competitive position of an enterprise in a foreign market using selected analytical tools
	14	Assessment of the use of digital channels and sales platforms in international expansion
	15	Control and evaluation of the effects of an enterprise's marketing activities in the international market. Submission and presentation of final projects
Teaching methods (on-site classes)	L	lecture with multimedia presentation; informational lecture; discussion
	C	text analysis with discussion; practical project
Teaching methods (online classes)	L	lecture with multimedia presentation; informational lecture; discussion
Forms of crediting	L	written exam
	C	international strategy project in groups, based on the example of a selected enterprise
Conditions of crediting	L	The student is required to take the examination in the course on the scheduled date. The final grade results from the number of points obtained by the student in the examination. Assessment criteria: 5.0 when the student has obtained 100–91% of all points possible to obtain 4.5 90%–81% 4.0 80%–71% 3.5 70%–61% 3.0 60%–51% 2.0 below 51%
	C	Credit with a grade based on the completed project. The condition for passing the course is the achievement of all intended learning outcomes. Assessment criteria: 5.0 when the student has obtained 100–91% of all points possible to obtain 4.5 90%–81% 4.0 80%–71% 3.5 70%–61% 3.0 60%–51% 2.0 below 51%

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	the specificity of international marketing and its importance in the functional and strategic management of an enterprise operating in foreign markets	ZARZII_W03		
E2	in an in-depth manner, the cultural, economic and psychological determinants of enterprises' marketing decisions in international markets	ZARZII_W07		
Skills: the student can				
E3	select sources of information on foreign markets and use them to assess the opportunities, risks and uncertainty related to the international expansion of an enterprise		ZARZII_U02	
E4	carry out a critical analysis and synthesis of information concerning the international environment, the attractiveness of foreign markets and the competitive position of an enterprise		ZARZII_U03	
E5	select and adapt an enterprise's marketing activities to the specificity of foreign markets, taking into account standardisation and adaptation		ZARZII_U04	
Social competence: the student is ready to				
E6	critically assess knowledge, data and recommendations concerning enterprises' marketing activities in international markets			ZARZII_K01
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	written exam		L	
E2	written exam		L	
E3	practical project		C	
E4	practical project		C	
E5	practical project		C	
E6	practical project		C	

1 Kumar V., International Marketing Research: A Transformative Approach, Palgrave Macmillan, Cham 2024.

Basic references	2	Doole I., Lowe R., Kenyon A., International Marketing Strategy: Analysis, Development and Implementation (9th ed.), Cengage Learning EMEA, Andover 2022.
	3	Green M. C., Keegan W. J., Global Marketing (10th ed.), Pearson Education Limited, Harlow 2020.
	4	Le HTPM, Nguyen PV, Chebbi H, Dinh DM, The evolution of international marketing management: AI applications and emerging markets driving international selling in the digital era. International Marketing Review 2025, Vol. ahead-of-print No. ahead-of-print. [Electronic document]. Access: https://doi.org/10.1108/IMR-04-2025-0176
Supplementary references	1	Shahid Z. A., et al., Signaling theory and its relevance in international marketing: A systematic review and future research agenda. International Marketing Review 2024, 41(2), 514–561. [Electronic document]. Access: https://doi.org/10.1108/IMR-04-2022-0092
	2	Cateora P. R., Money R. B., Gilly M. C., Graham J. L., International Marketing (19th ed.), McGraw-Hill, New York 2023.
	3	Oliveira J. S., et al., Decision-making in international marketing: Past, present and future. International Marketing Review 2023, 40(3), 413–428. [Electronic document]. Access: https://doi.org/10.1108/IMR-11-2022-0249
	4	Fatehi K., International Business Management: Succeeding in a Culturally Diverse World (2nd ed.), Springer International Publishing, Cham 2019.
Course coordinator	Anna Matwiejczyk, PhD	
	Date:	5/5/2026

COURSE DESCRIPTION CARD

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY									Faculty of Engineering Management				
Field of study	Management								Level and form of study	full-time second degree studies			
A group of modules /specialty	common courses								Education profile	general academic			
Course name	Commercial and civil law								Course code	Z2Eza1s.006			
									Course type	mandatory			
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Semester	1				
	30	15						ECTS credits	3				
The programme is valid from									2026/2027				
Introductory courses													
Course objectives		Familiarize students with the institutions of civil and commercial law and their importance for the functioning of businesses and management processes. Develop the ability to understand and apply legal norms regulating business transactions, particularly in the areas of concluding and performing contracts, civil liability, the functioning of entrepreneurs and commercial companies, and protecting the interests of trade participants. Identify legal risks in business operations, make informed managerial decisions with consideration of legal implications, and effectively collaborate with the company's legal services.											
Framework programme content		Sources of law and principles of civil law transactions, the concept of an entrepreneur and an enterprise, legal capacity and capacity to perform legal acts, legal acts and contracts in business transactions, civil liability, security of receivables, limitation of claims, types of contracts used in business activities, the functioning and liability of commercial companies and their bodies, enterprise property, protection of the interests of trading participants (including elements of consumer protection) and the importance of legal regulations in managing an organization and making managerial decisions.											
Other information about the course		the course is related to the scientific activity conducted at the University											
Calculation:	Student workload related to:								Total number of hours	including contact	including practical		
	participation in lectures								30	30			
	participation in other forms of activities								15	15	15		
	preparation for the exam								10				
	preparation for classes								10		10		
	preparation for the completion of classes								10		10		
	Total number of hours:								75	45	35		
Total number of ECTS credits:								3	1.8	1.4			
Expected discipline learning outcomes									Knowledge	Skills	Social competence		
									ZARZII_W06; ZARZII_W07; ZARZII_W09	ZARZII_U07; ZARZII_U09	ZARZII_K04		
Objectives and framework content prepared by		Marcin Jurewicz, PhD							Date: 05.05.2026				
Implementation in the academic year		2026/2027											
Lecture													
		1	Discussion of organizational information, introductory issues										
		2	Civil and commercial law as branches of law										
		3	Civil law norms and civil law relations										
		4	Civil law entities										
		5	Personal rights and their protection										
		6	The subject of civil law relations										
		7	Legal actions										
		8	Deadlines, limitation period and civil liability										
		9	Entrepreneur status and registers: CEIDG//KRS, company, procurator, enterprise										
		10	Partnerships: general partnership, professional partnership, limited partnership, limited joint-stock partnership										
		11	Capital companies: limited liability company, joint-stock company and simple joint-stock company										
		12	Trade agreements										
		13	Market protection: unfair competition, competition and consumer protection										
		14	Insolvency: bankruptcy, restructuring, liability for omissions										
		15	Passing										
Classes													
Programme content		1	Discussion of organizational information, introductory issues										
		2	Civil law entities - resolving cases										
		3	Protection of personal rights - resolving cases										
		4	The subject of civil law relations - resolving cases										
		5	Legal actions - resolving cases										
		6	Deadlines, limitation period and civil liability - resolving cases										

	7	Analyzing sample letters and contracts in civil and commercial law - part 1
	8	Analyzing sample letters and contracts in civil and commercial law - part 2
	9	Running a business, registers, company, procuration, enterprise - resolving cases
	10	Partnerships: general partnership, professional partnership, limited partnership, limited joint-stock partnership - resolving cases
	11	Capital companies: limited liability company, joint-stock company and simple joint-stock company - resolving cases
	12	Commercial contracts - resolving cases
	13	Market protection: unfair competition, competition and consumer protection - resolving cases
	14	Insolvency: bankruptcy, restructuring, liability for omissions - resolving cases
	15	Test
Teaching methods (on-site classes)	L	informative lecture, lecture with multimedia presentation
	C	resolving cases, analyzing sample letters and contracts in civil and commercial law
Teaching methods (online classes)	L	informative lecture, lecture with multimedia presentation
	-	
Forms of crediting	L	descriptive passing
	C	test, resolving cases
	L	The final grade is the sum of points obtained by the student in the descriptive passing: 5.0-9 points, 4.5-8 points, 4.0-7 points; 3.5 - 6 points, 3.0-4-5 points, 2.0-below 4 points.
Conditions of crediting	C	The final grade is based on the sum of the points obtained by the student in the test: 5.0-9 points, 4.5-8 points, 4.0-7 points; 3.5-6 points, 3.0-4-5 points, 2.0-below 4 points. Additionally, students receive "plus points" for correctly resolving the case studies during the exercises. Obtaining at least 50% of the possible "plus points" increases the exercise grade by ½ a grade, while 75% of the possible "plus points" increases the exercise grade by 1 grade.

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	dilemmas related to the civil liability of managers and entrepreneurs, the security of economic transactions, the protection of the interests of contracting parties, the functioning of commercial companies in the conditions of globalization and digitalization, and the impact of dynamic social, technological and economic changes on the application of civil and commercial law in management processes	ZARZII_W06		
E2	civil and commercial law regulations determining the conduct of business activities and the legal consequences of decisions made in the management process	ZARZII_W07		
E3	the importance of civil and commercial law for choosing the form of conducting business activity, establishing and operating enterprises and commercial companies, shaping contractual relations, raising capital and limiting legal risk, as well as the impact of legal regulations on the development of new business models and entrepreneurship in a dynamically changing economic environment	ZARZII_W09		
Skills: the student can				
E4	communicate on specialist topics in the field of commercial and civil law with a diverse audience, including those without legal education, and conduct a substantive debate on the legal aspects of business activity and management, presenting and justifying one's position, interpreting basic legal institutions, the effects of managerial decisions and using appropriate legal terminology in a way that is understandable and appropriate to the communication context		ZARZII_U07	
E5	organize the work of the team, coordinate the division of roles and responsibilities, taking into account the competences of its members, and cooperate effectively with representatives of various fields (e.g. law, finance, management) when making decisions regarding business operations and enterprise management		ZARZII_U09	
Social competence: the student is ready to				
E6	demonstrating awareness of the importance of compliance of entrepreneurial activities with applicable legal regulations, identifying basic legal risks related to establishing and developing a business, and responsibly undertaking business initiatives, including those based on new organizational, technological and market models			ZARZII_K04
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		

E1	<i>descriptive passing, test, resolving cases</i>	L, C
E2	<i>descriptive passing, test, resolving cases</i>	L, C
E3	<i>descriptive passing, test, resolving cases</i>	L, C
E4	<i>test, resolving cases</i>	C
E5	<i>test, resolving cases</i>	C
E6	<i>test, resolving cases</i>	C
Basic references	1	Tarska, M. Unity of civil law and the legal regulation of commercial companies – selected issues, Acta Iuris Stetinensis (2019), Vol 27 (3), 189-203. [Electronic document]. Access: https://doi.org/10.18276/ais.2019.27-23
	2	Wang X., Study on the Innovative Application of Civil and Commercial Law in the Context of E-Commerce in the Internet Era, Applied mathematics and nonlinear sciences, 2024, Vol.9 (1). [Electronic document]. Access: https://10.2478/amns-2024-0567
	3	Malinowska-Woźniak K., Wysocka M., Kubasik K., The principle of unity of the civil law vs cohesion of commercial law and family law regulations, Acta Iuris Stetinensis, 2019, Vol.28 (4), p.235-243. [Electronic document]. Access: https://doi.org/10.18276/ais.2019.28-13
Supplementary references	1	Zhao, X. Text mining algorithm of value orientation of civil and commercial law, regulations and reimbursement based on emotional dictionary, Journal of Commercial Biotechnology (2021), Vol 26 (2). [Electronic document]. Access: https://commercialbiotechnology.com/article-detail/?id=1057
	2	Bielski P., An Excess or Deficiency of Legal Regulations of the Specific Part of Commercial Agreements Law in the Civil Code?, Krytyka Prawa, 2019, Vol.11 (2), p.155-168.
	3	Chang M., Exploration of Computer Vision Technology and Legal Consideration of Online False Propaganda Behavior in the Perspective of Civil and Commercial Law, Applied mathematics and nonlinear sciences, 2025, Vol.10 (1).
Course coordinator	<i>Marcin Jurewicz, PhD</i>	Date: 5/5/2026

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY				Faculty of Engineering Management			
Field of study	Management			Level and form of study	full-time second degree studies		
A group of modules /specialty	Innovation & Business Management			Education profile	general academic		
Course name	Innovative entrepreneurship			Course code	Z2Eza1s.011		
				Course type	elective		
Course form(s) and number of hours	L	C	LC	P	SW	FW	S
	15	30					
The programme is valid from	2026/2027						
Introductory courses							

Course objectives	The aim of the course is to provide students with in-depth knowledge of innovative entrepreneurship and the design of business models using the Business Model Canvas. The course develops the ability to identify, analyze, and validate innovative business opportunities in dynamic and uncertain market environments. It equips students with practical skills in designing, testing, and iterating business models, with a strong emphasis on value creation, delivery, and capture. A key objective is to foster the use of modern entrepreneurial approaches, including Lean Startup and Design Thinking, in developing scalable and sustainable ventures. Additionally, the course enhances students' entrepreneurial mindset, creativity, and ability to work collaboratively in developing and presenting innovative business solutions. The course explores the role of key resources, activities, and partnerships in building scalable and sustainable business models. It incorporates modern entrepreneurial approaches such as Lean Startup and Design Thinking in the process of business model development. Emphasis is placed on testing, validating, and iterating business models, including the use of MVPs and customer feedback. The programme also addresses digital and platform-based business models, as well as the challenges of scaling innovative ventures.
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Framework programme content	The course covers the fundamental concepts of innovative entrepreneurship and the role of business models in creating competitive advantage. It introduces the structure and logic of the Business Model Canvas as a key tool for designing and analyzing business models. Particular attention is given to customer segments, value propositions, channels, and customer relationships in the context of dynamic market environments. The programme also includes revenue streams, cost structures, and the financial logic of innovative ventures.
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Other information about the course	content of the course refers to the principles of sustainable development the course is related to the scientific activity conducted at the University
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	Student workload related to:	Total number of hours	including contact	including practical
Calculation:	participation in lectures	15	15	
	participation in other forms of activities	30	30	30
	preparation for passing a lecture	5		
	preparation for classes	25		25
	Total number of hours:	75	45	55
	Total number of ECTS credits:	3	1.8	2.2

		Knowledge	Skills	Social competence
Expected discipline learning outcomes		ZARZII_W01, ZARZII_W09	ZARZII_U04, ZARZII_U07, ZARZII_U09	ZARZII_K04
Objectives and framework content prepared by	PhD Wioletta Czemiel-Grzybowska	Date: 04.05.2026 r.		

Implementation in the academic year	2026/2027
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	Lecture
Programme content	1 Foundations of Innovative Entrepreneurship. Innovative Entrepreneurship and Business Model Thinking.
	2 From Idea to Business Model: Opportunity Recognition and Validation.
	3 The Business Model Canvas: Structure, Logic, and Strategic Role.
	4 Customer Segments and Value Proposition Design.
	5 Channels and Customer Relationships in Digital Markets.
	6 Revenue Streams and Pricing Strategies in Innovative Ventures.
	7 Key Resources, Key Activities, and Key Partnerships.
	8 Cost Structure and Financial Logic of Business Models.
	9 Innovation and Business Model Development. Design Thinking and Lean Startup in Business Model Innovation.
	10 Value Proposition Canvas and Product-Market Fit.
	11 Business Model Patterns and Platform-Based Models.
	12 Digital Business Models and Platform Ecosystems.
	13 Testing, Scaling, and Strategy. Business Model Testing, Validation, and Pivoting.
	14 Scaling Innovative Business Models and Growth Strategies.
	15 Sustainable and Social Business Models (ESG and Impact). Written assessment.
	Classes
	1 Ideation and Canvas Basics. Generating Business Ideas and Initial Opportunity Mapping.

	2	Building a First Business Model Canvas (team exercise).
	3	Defining Customer Segments and Personas.
	4	Value Creation and Delivery. Designing Value Propositions (Value Proposition Canvas workshop).
	5	Mapping Customer Journeys and Channels.
	6	Designing Revenue Models and Pricing Experiments.
	7	Identifying Key Resources, Activities, and Partnerships.
	8	Building Cost Structures and Financial Assumptions.
	9	Full Business Model Canvas Development.
	10	Validation and Testing. Customer Discovery and Problem–Solution Fit Testing.
	11	Designing Experiments and MVP (Minimum Viable Product).
	12	Business Model Validation and Pivot Decisions.
	13	Digital and Platform Business Model Design.
	14	Refinement of Business Model Canvas.
	15	Final Project: Presentation and Evaluation of Business Models
Teaching methods (on-site classes)	L	problem-based lecture; informational lecture; conversational (interactive) lecture; lecture with multimedia presentation;
	C	project-based method (research project with elements of a practical project); discussion; brainstorming; exercises using forms and IT tools/software.
Teaching methods (online classes)	L	problem-based lecture; informational lecture; conversational (interactive) lecture; lecture with multimedia presentation;
	C	
Forms of crediting	L	written test with open-ended questions and extended written responses
	C	assessment based on points obtained for completed assignments, midterm test, and class participation
Conditions of crediting	L	The condition for passing the course is obtaining a positive grade in a written test consisting of open-ended questions and extended written responses, verifying the achievement of the intended learning outcomes. The final grade is determined on the basis of the number of points obtained for individual tasks, in accordance with the adopted assessment criteria: 91–100% very good (5.0); 81–90% good plus (4.5); 71–80% good (4.0); 61–70% satisfactory plus (3.5); 50–60% satisfactory (3.0); below 50% fail (2.0).
	C	The condition for passing the classes is obtaining a positive grade based on the number of points earned for completed assignments, a midterm test, and class participation, verifying the achievement of the intended learning outcomes. The final grade is determined in accordance with the adopted assessment criteria: 91–100% very good (5.0); 81–90% good plus (4.5); 71–80% good (4.0); 61–70% satisfactory plus (3.5); 50–60% satisfactory (3.0); below 50% fail (2.0).

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	phenomena, and processes related to the management of organizations, as well as advanced methods and theories explaining the complex interrelationships between parts of BMC.	ZARZII_W01		
E2	concepts, models, and instruments for the creation and development of various forms of BMC.	ZARZII_W09		
Skills: the student can				
E3	select and apply professional, advanced methods and tools used in innovative entrepreneurship, in particular the Business Model Canvas, Value Proposition Canvas, and Lean Startup techniques, supported by advanced information and communication technologies.		ZARZII_U04	
E4	communicate effectively on specialized topics related to innovative entrepreneurship with diverse audiences and to engage in structured debate, presenting and defending business model concepts and entrepreneurial solutions.		ZARZII_U07	
E5	assume leading roles in interdisciplinary teams, integrating business, technological, and creative perspectives in the design, testing, and presentation of innovative entrepreneurial solutions.		ZARZII_U09	
Social competence: the student is ready to				
E6	demonstrate an entrepreneurial mindset and the ability to think and act proactively, including initiating and developing innovative ventures, particularly in the context of designing and implementing new business models.			ZARZII_K04
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	written test; midterm test; project preparation; problem-solving tasks;		L; C	

E2	<i>written test; midterm test;</i>	L; C
E3	<i>written test; midterm test, prepared and delivered multimedia presentations, problem-solving tasks;</i>	L; C
E4	<i>midterm test, problem-solving tasks;</i>	L; C
E5	<i>problem-solving tasks; project preparation;</i>	C
E6	<i>midterm test, problem-solving tasks;</i>	C
Basic references	1 M. M. L. R Botelho, C. A. K Gouvêa, Innovative entrepreneurship : cases on the consolidation of the triple helix in knowledge and technology transfer environments, Pocket, 2025.	
	2 A. Zacharakis, A. C. Corbett, W. D Bygrave, Entrepreneurship, Hoboken : John Wiley & Sons, 2025.	
Supplementary references	1 C. H.Hoffmann (ed.), Artificial intelligence, entrepreneurship and risk : reflections and positions at the crossroads between philosophy and management, Springer, 2025.	
	2 W. Czemieli-Grzybowska, M. Bąkowski, M. Forfa, Overcoming the Challenge of Exploration: Organizational Readiness of Technology Entrepreneurship on the Background of Energy Climate Nexus, Energies, 2024	
Course coordinator	<i>PhD Wioletta Czemieli-Grzybowska</i>	Date: 04.05.2026

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY								Faculty of Engineering Management	
Field of study	Management							Level and form of study	full-time second-cycle studies
A group of modules /specialty	Innovation & Business Management							Education profile	general academic profile
Course name	International law							Course code	Z2Eza1s.012
								Course type	elective
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Semester	1
	15	15						ECTS credits	2
The programme is valid from								2026/2027	
Introductory courses									

Course objectives	The course aims to provide in-depth knowledge of the specific nature and scope of public international law, as well as the role of public international law in international relations and its influence on individual actors on the international stage. The aim of the course is also to develop practical skills in interpreting sources of international public law, solving complex problems based on specific case studies from selected areas of international law, and critically assessing decisions made by subjects of international law.
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Framework programme content	Definition and specificity of international law. Sources of international law. Actors of international law. Territory in international law. Population in international law. Diplomatic and consular law. Peaceful resolution of international disputes. International Humanitarian Law (Law of Armed Conflicts).
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Other information about the course	the course is related to the scientific activity conducted at the University
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	Student workload related to:	Total number of hours	including contact	including practical
Calculation:	participation in lectures	15	15	
	participation in other forms of activities	15	15	15
	preparation for ongoing practical classes	10	0	10
	preparation for passing a lecture	10		
	Total number of hours:	50	30	25
	Total number of ECTS credits:	2	1.2	1.0

	Knowledge	Skills	Social competence
Expected discipline learning outcomes	ZARZII_W06; ZARZII_W07	ZARZII_U03; ZARZII_U07	ZARZII_K01; ZARZII_K02

Objectives and framework content prepared by	dr Agnieszka Konopelko	Date:	2026-05-04
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Implementation in the academic year	2026/2027
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		Lecture
	1	Introduction to international law
	2	Specifics and branches of international law
	3	Functions of international public law
	4	Sources of international public law
	5	Principles of international public law
	6	Legal personality of international organizations
	7	Individual responsibility in international law
	8	The state's responsibility in international law
	9	Law of the Sea - part I.
	10	Law of the Sea - part II.
	11	Diplomatic immunities and privileges
	12	Consular immunities and privileges
	13	Sources of International Humanitarian Law (Law of Armed Conflicts)
	14	Principles of International Humanitarian Law (Law of Armed Conflicts)
	15	Written assessment.
Programme content		Classes
	1	Organizational classes – information about how the classes are conducted and the rules for assessment
	2	Analysis of the sources of international public law based on the Vienna Convention
	3	Procedure for concluding international agreements
	4	Analysis of the basic principles of international public law based on the selected cases
	5	Analysis of the basic principles of international law based on the International Court of Justice's advisory opinion
	6	Legal personality of international organizations - development of skills in text interpretation
	7	Analysis of examples of individual responsibility in international law based on the selected regulations of international law
	8	Analysis of the principles of the state's responsibility in international law based on the selected cases
	9	Identification and delimitation of maritime zones
	10	Analysis of the selected problems of the Law of the Sea based on the selected cases
	11	Analysis of the selected problems of diplomatic law based on the selected cases

	12	Analysis of the selected problems of consular law based on the selected cases
	13	International Humanitarian Law (Law of Armed Conflicts) - development of skills in text interpretation
	14	Analysis of regulations on use of weapons based on the selected cases
	15	A summary of the semester's work
Teaching methods (on-site classes)	L	problem-based lecture; informative lecture; lecture with a multimedia presentation
	C	case studies; short in-class essays; text analysis and discussion
Teaching methods (online classes)	L	problem-based lecture; informative lecture; lecture with a multimedia presentation delivered via Microsoft Teams
Forms of crediting	L	written test with closed-ended questions
	C	assessment based on points obtained from completing subsequent tasks and the students' activity
Conditions of crediting	L	The assessment takes the form of a written test with closed-ended questions. The final grade is determined by the total number of points the student earns. The points awarded for individual answers are summed and converted into a final grade according to the adopted grading scale: 91 – 100% (5.0); 81 – 90% (4.5); 71 – 80% (4.0); 61 – 70% (3.5); 51 – 60% (3.0); less than 51% (2.0).
	C	The final grade for the practical classes is based on the total number of points obtained from continuous assignments, case studies (60%), and short in-class essays and text analysis (40%). The score may be increased for active participation during classes. Assessment criteria: 91 – 100% (5.0); 81 – 90% (4.5); 71 – 80% (4.0); 61 – 70% (3.5); 51 – 60% (3.0); less than 51% (2.0).

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
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		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	specifics, subject, actors and sources of international public law	ZARZII_W06; ZARZII_W07		
E2	the role and the significance of the selected areas of international public law in global international relations	ZARZII_W06; ZARZII_W07		
Skills: the student can				
E3	interpret the available primary and secondary sources of knowledge and implement theoretical knowledge in empirical analysis		ZARZII_U03	
E4	identify, explain and solve the problems that arise in the analyzed case studies		ZARZII_U03; ZARZII_U07	
Social competence: the student is ready to				
E5	efficiently discuss and argue, and critically assess decisions made by subjects of international law			ZARZII_K01; ZARZII_K02

Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	written test	L
E2	written test	L
E3	solving problem-based tasks	C
E4	solving problem-based tasks; activity during classes	C
E5	solving problem-based tasks; activity during classes	C

Basic references	1	Alizade M., Vienna Convention on the Law of Treaties, SCIENTIFIC RESEARCH (2024) 4(2) 34-38, [Electronic document]. Access: https://www.mendeley.com/catalogue/ff562051-2931-323d-bc06-1437860b138a/?utm_source=chatgpt.com .
	2	International Law Commission, [Electronic document]. Access: https://legal.un.org/ilc/texts/texts.shtml .
	3	Melzer N., International Humanitarian Law: A Comprehensive Introduction, International Committee of the Red Cross (ICRC), 2022, [Electronic document]. Access: https://www.researchgate.net/publication/313589999_New_IHL_handbook .
	4	Tanaka Y., The International Law of the Sea, Cambridge University Press 2012, [Electronic document]. Access: https://eclass.unipi.gr/modules/document/file.php/EBI196/TheLawOfTheSea.Tanaka%20full.pdf
	5	Vienna Convention on the Law of Treaties, Vienna, 23 May 1969, [Electronic document]. Access: https://legal.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf
Supplementary references	1	Dörr O., Schmalenbach K., Vienna Convention on the Law of Treaties: A Commentary, Springer, Cham 2018.
	2	Evans, M., International Law, Oxford University Press, Oxford 2018.
	3	International Humanitarian Law and the Challenges of Contemporary Armed Conflicts: Building a Culture of Compliance for IHL to Protect Humanity in Today's and Future Conflicts, International Committee of the Red Cross (ICRC) Report 2024, [Electronic document]. Access: file:///C:/Users/Admin/Downloads/4810_002-ebook.pdf .
	4	United Nations Convention on the Law of the Sea, 1982, [Electronic document]. Access: https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf .
	5	Vienna Convention on Diplomatic Relations, 1961, United Nations, [Electronic document]. Access: https://legal.un.org/ilc/texts/instruments/english/conventions/9_1_1961.pdf . Vienna Convention on Consular Relations, 1963, https://legal.un.org/ilc/texts/instruments/english/conventions/9_2_1963.pdf .

Course coordinator	dr Agnieszka Konopelko	Date:	5/4/2026
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COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Management	
Field of study	Management							Level and form of study	full-time second degree studies		
A group of modules /specialty	common courses							Education profile	general academic		
Course name	Dialogue cultures and religions							Course code	H2Ew2s.001		
								Course type	elective		
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Semester	2		
	15	30						ECTS credits	3		
The programme is valid from								2026/2027			
Introductory courses											

Course objectives	The aim of the course is to provide both rudimentary and advanced knowledge about the diversity of cultures and religions in light of the changing local, regional, and international environment. Students acquire skills in understanding and tolerance for cultural and religious challenges in the contemporary world, especially in the changing local, regional, and international environment. The course develops understanding and tolerance for cultural and religious challenges, which often lead to conflict. A key element of the course is developing the ability to identify conflicts and ways to constructively resolve them. Negotiation techniques and peaceful resolution of religious and cultural tensions and conflicts are utilized in the teaching process. The course is complemented by a team project that supports the integration of theoretical knowledge with practice in the context of religious and cultural diversity in the light of intercultural dialogue.
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Framework programme content	In the lecture portion, students acquire structured knowledge of the essence of religion and culture in light of existing civilizations and the geostrategic flows of cultures, ideas, economics, and economies in the context of the changing international order. The practical portion is problem-based and situational in nature and includes in-depth development of socio-cultural competencies encompassing doctrine, practices, and advanced.
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Other information about the course

	Student workload related to:	Total number of hours	including contact	including practical
Calculation:	participation in lectures	15	15	
	participation in other forms of activities	30	30	30
	preparation for passing a lecture	6		
	preparation of a presentation	6	0	6
	preparation for classes	18		18
	Total number of hours:	75	45	54
	Total number of ECTS credits:	3	1.8	2.2

	Knowledge	Skills	Social competence
Expected discipline learning outcomes	ZARZII_W09 (H2_W03)	ZARZII_U07 (H2_U01); ZARZII_U09 (H2_U02)	ZARZII_K03 (H2_K01)

Objectives and framework content prepared by	Madalena Ickiewicz-Sawicka, PhD.	Date: 08.05.2026
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Implementation in the academic year **2026/2027**

Programme content	Lecture	
	1	The concept of culture and religion in contemporary society
	2	The history of dialogue between religions and cultures in the world
	3	Universal values as the basis for understanding between nations and religions
	4	Human cultural and religious identity
	5	Stereotypes, prejudices, and discrimination in intercultural relations
	6	Tolerance and respect for religious and cultural diversity
	7	Intercultural communication and principles of dialogue
	8	World religions and peace, conflict, and reconciliation
	9	The role of education in building dialogue between cultures and religions
	10	Migrations, globalization, and multiculturalism of societies
	11	Dialogue of religions and cultures in the media and public space
	12	Interreligious cooperation in solving social and humanitarian problems
	13	Examples of good practices in interreligious and intercultural dialogue
	14	The future of dialogue between religions and cultures in the world of contemporary challenges
	15	Written Examination
	Classes	
	1	Introduction: Religion, Culture, Dialogue
	2	Problem-Solving Workshops – Religion, Denomination

	3	Problem-Solving Workshops – Interreligious Dialogue
	4	Problem-Solving Workshops – Interreligious Dialogue
	5	Judaism - Case Study
	6	Christianity - Case Study
	7	Islam - Case Study
	8	Hinduism - Case Study
	9	Buddhism - Case Study
	10	Confucianism - Between Religion and Philosophy (Case Study)
	11	Animistic Religions - Case Study
	12	Religious Practices - Legal Conditions
	13	Cultural Practices - Legal Conditions
	14	Cultural Practices - Legal Conditions
	15	Written Assessment
Teaching methods (on-site classes)	L	informative lecture; problem-based lecture; lecture with multimedia presentation
	C	workshops; case study;
Teaching methods (online classes)	L	informative lecture; problem-based lecture; lecture with multimedia presentation
	L	written assessment
Forms of crediting	C	passing based on points obtained for: developing a problem-solving task along with a presentation and a case study
Conditions of crediting	L	The written assessment takes the form of open-ended problem questions. The final grade is determined based on the number of points obtained for: the substantive correctness of the answers, the accuracy of argumentation and reasoning, and the correct use of terminology. The points awarded for individual answers are summed and converted into a final grade according to the adopted grading scale: 91 – 100% very good (5.0); 81 – 90% plus good (4.5); 71 – 80% good (4.0); 61 – 70% plus satisfactory (3.5); 51 – 60% satisfactory (3.0); below 51%
	C	91 – 100% (5.0) - problem-solving task, multimedia presentation, activity, case study preparation; 81 – 90% (4.5) - problem-solving task, multimedia presentation, activity, case study preparation (according to percentage values); 71 – 80% good (4.0) - problem-solving task, multimedia presentation, activity, case study preparation (according to percentage values); 61 – 70% (3.5) - problem-solving task, multimedia presentation, activity, case study preparation (according to percentage values); 51 – 60% satisfactory (3.0) - problem-solving task, multimedia presentation, activity, case study preparation (according to percentage values); below 51% unsatisfactory (2.0) - none of the above, below 51%

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	in-depth understanding of the essence, conditions and concepts of cultures and religions functioning both historically and contemporary	ZARZII_W09 (H2_W03)		
E2	advanced concepts, strategies and instruments for managing multicultural and multireligious local, regional and international environments	ZARZII_W09 (H2_W03)		
Skills: the student can				
E3	use advanced knowledge to analyze and solve complex problems related to cultural diversity, intercultural dialogue and cultural-religious conflicts		ZARZII_U07 (H2_U01), ZARZII_U09 (H2_U02)	
E4	critically analyze, synthesize and interpret information regarding the activities of cultural and religious institutions in various parts of Europe and the world.		ZARZII_U07 (H2_U01), ZARZII_U09 (H2_U02)	
E5	cooperate in a multicultural team and manage its work in the implementation of complex tasks related to the development and implementation of systemic solutions recommended by the UN and its individual agencies.		ZARZII_U07 (H2_U01), ZARZII_U09 (H2_U02)	
Social competence: the student is ready to				
E6	initiating and implementing multicultural and multireligious activities and making decisions taking into account the variability of the environment and the importance of knowledge in solving practical problems			ZARZII_K03 (H2_K01)
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	Written assessment		L	
E2	Written assessment		L	
E3	Problem-based project, case study		C	

E4	<i>Problem-based project - presentation</i>	C
E5	<i>Problem-based project</i>	C
E6	<i>Problem-based project</i>	C
Basic references	1 Cornille, Catherine (ed.), The Wiley-Blackwell Companion to Inter-Religious Dialogue, Hoboken: Wiley-Blackwell, 2020.	
	2 Hedges, Paul, Religions and Dialogue in the Global Age, London: SCM Press, 2022.	
	3 Holmes, Prue; Corbett, John (eds.), Critical Intercultural Pedagogy for Difficult Times, London–New York: Routledge, 2022.	
	4 Maine, Fiona; Vrikki, Maria (eds.), Dialogue for Intercultural Understanding, Cham: Springer, 2021.	
	5 Valkenberg, Pim, World Religions in Dialogue: A Comparative Theological Approach, Winona: Anselm Academic, 2021.	
Supplementary references	1 Duderija A., Islam and Constructive Interreligious Engagement, Routledge, London 2026.	
	2 Hedges, P., Saeed, A., Muez, N., & Farrow, L. (Eds.), Social cohesion, peacebuilding, human rights, and dialogue: Global interreligious perspectives. Leiden–Boston: Brill, 2026	
	3 Poorthuis M., Rituals in Interreligious Dialogue: Bridge or Barrier?, Cambridge Scholars Publishing, Newcastle upon Tyne 2020.	
	4 Tham J., Advani S. (red.), Fratelli Tutti in Conversation: Voices from World Religions, Routledge, London–New York 2026.	
Course coordinator	<i>Magdalena Ickiewicz (PhD)</i>	Date: 5/8/2026

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY									Faculty of Engineering Management					
Field of study		Management							Level and form of study		full-time second degree studies			
A group of modules /specialty		common courses							Education profile		general academic			
Course name		History of rhetoric and persuasion							Course code		H2Ew2s.002			
									Course type		elective			
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester		2			
		15	30						ECTS credits		3			
The programme is valid from									2026/2027					
Introductory courses														
Course objectives		The aim of the course is to familiarize students with the historical evolution of rhetorical techniques, persuasion mechanisms, and propaganda strategies, as well as to develop skills for their critical analysis and ethical application in management processes and daily life. Students will learn about tools that have served to build leadership authority and shape social attitudes over the centuries. The course places particular emphasis on the deconstruction of manipulative and propaganda mechanisms, aiming to develop high resistance to disinformation and contemporary phenomena such as post-truth.												
Framework programme content		The programme opens with an analysis of the foundations of classical rhetoric, focusing on the ancient triad of ethos, pathos, and logos as the basis of a leader's credibility, and then moves to a practical workshop on speech structure and preparation stages. It illustrates the role of rhetoric in historical processes through the analysis of breakthrough public speeches and treats literature as a laboratory for advanced persuasive and psychological strategies. An essential element of the education is the study of propaganda mechanisms and mass manipulation, which, combined with the study of eristics, allows students to recognize and repel unfair tactics in disputes. The module also considers the specificities of communication in the era of digital transformation, analyzing the impact of new media on contemporary discourse, and concludes with a reflection on the ethics of the word and responsibility for the message in management processes.												
Other information about the course														
		Student workload related to:							Total number of hours		including contact		including practical	
Calculation:	participation in lectures							15		15				
	participation in other forms of activities							30		30		30		
	preparation for passing a lecture							5						
	preparation for classes							25				25		
	Total number of hours:							75		45		55		
Total number of ECTS credits:							3		1.8		2.2			
									Knowledge		Skills		Social competence	
Expected discipline learning outcomes									ZARZII_W09 (H2_W03)		ZARZII_U07 (H2_U01); ZARZII_U09 (H2_U02)		ZARZII_K03 (H2_K01)	
Objectives and framework content prepared by		Andrzej Smolarczyk PhD.							Date: 07.05.2026					
Implementation in the academic year									2026/2027					
		Lecture												
Programme content	1	Introduction: Assessment criteria and grading. Logos, Ethos, and Pathos. Ancient philosophy of persuasion as the foundation of European communication culture.												
	2	The Roman Ideal of "Vir Bonus": Rhetoric as a tool for building the authority of a leader, citizen, and the state.												
	3	Rhetoric in the Shadow of the Cross: From homiletics to medieval and Renaissance educational systems.												
	4	Eristics and Dialectics: Philosophical boundaries of manipulation, dispute, and honest argumentation.												
	5	Sarmatian Culture of the Word: Specifics of Polish political rhetoric and noble parliamentarism.												
	6	The Age of Reason and Revolution: The birth of modern public opinion and the rhetoric of human rights.												
	7	Romanticism and Messianism: Literature as a tool for building national identity and the spirit of resistance.												
	8	The Age of Steam and Production: Positivist rhetoric of progress, work, and social modernization.												
	9	The Birth of Mass Propaganda: From World War I to the "hypodermic needle" theory.												
	10	Language in the Service of Ideology: Linguistic analysis of 20th-century totalitarian systems.												
	11	Visual Rhetoric and the "Era of the Image": From propaganda posters to social media communication.												
	12	20th-Century Psychology of Persuasion: The transition from classical rhetoric to behavioral sciences.												
	13	Storytelling and Organizational Myths: Humanistic foundations of modern management and leadership.												
	14	Crisis of Truth in the Digital Age: Post-truth, information bubbles, and the erosion of authority.												
	15	Ethics of the Word in the Manager's Profession: Rhetoric as responsibility for the other and the community. Final written credit.												
		Classes												
1	Introduction: Assessment criteria. The birth of democracy and the market value of the word. Sophists as the first paid business consultants.													

	2	Aristotle's Triad: Building authority, emotion, and logic in the act of persuasion.
	3	Cicero and Roman Pragmatism: The five tasks of the orator (officia oratoris).
	4	Eristics: How to win arguments without being right.
	5	Sacred Rhetoric and Preaching: Managing mass imagination and community emotions.
	6	Mechanisms of Persuasion in Old Polish Literature: Civic ethos and noble eloquence.
	7	Revolution and Manifestos: The language of radical social change.
	8	Totalitarian Propaganda: Newspeak and depersonalization techniques.
	9	The Great War of Words: Crisis rhetoric and wartime communication.
	10	Storytelling in Management: From myth to brand narrative.
	11	Rhetoric of the Image: Semiotics of advertising and visual communication.
	12	Corporate Speak (corporatespeak): Communication efficiency or modern newspeak?
	13	Persuasion in the Age of Algorithms: Rhetoric of social media.
	14	Oxford Debate: The art of public argumentation and dispute structures.
	15	Post-truth and Disinformation: Critical analysis of contemporary public discourse. Final written credit.
Teaching methods (on-site classes)	L	Problem lecture; conversational lecture.
Teaching methods (online classes)	C	Subject-specific exercises; text analysis with discussion; drama; creative problem solving; presentation.
Forms of crediting	L	Written test.
	C	Assessment of individual activity after each class; assessment of teamwork (workshops, presentations, drama); written credit. The same percentage scale applies.
Conditions of crediting	L	Written test. The grade depends on the score: 5.0 (100-91%), 4.5 (90-81%), 4.0 (80-71%), 3.5 (70-61%), 3.0 (60-51%), 2.0 (below 51%).
	C	Written test. The grade depends on the score: 5.0 (100-91%), 4.5 (90-81%), 4.0 (80-71%), 3.5 (70-61%), 3.0 (60-51%), 2.0 (below 51%).

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	The historical development of rhetoric as a scientific discipline – from its ancient roots in Greek and Roman culture to contemporary communication theories – as well as classical and modern strategies of rhetorical influence, including the Aristotelian triad (ethos, pathos, logos), the mechanisms of dialectic and eristic, and their application in communication.	ZARZII_W09 (H2_W03)		
e2	The role of language in socio-economic processes, including the threats posed by the mechanisms of propaganda and newspeak; possessing knowledge of how ethical communication and sound argumentation determine the sustainable development and durability of various forms of entrepreneurship.	ZARZII_W09 (H2_W03)		
Skills: the student can				
E3	Identify and critically analyze rhetorical techniques and stylistic figures in historical, literary, and contemporary business messages.		ZARZII_U07 (H2_U01)	
E4	Recognize eristic tricks and mechanisms of propaganda and disinformation (including fake news and post-truth).		ZARZII_U07 (H2_U01)	
E5	To design and deliver a logically structured speech (consistent with the officia oratoris model), selecting appropriate arguments and means of expression (ethos, pathos, logos) tailored to the audience, while coordinating team efforts and collaborating in an interdisciplinary environment.		ZARZII_U09 (H2_U02)	
E6	Use knowledge of myth, archetypes, and biographical patterns to create organizational narratives and a professional managerial image.		ZARZII_U07 (H2_U01)	
Social competence: the student is ready to				
E7	Recognize ethical responsibility for the social impact of their messages and engage in honest and transparent communication, rejecting manipulation.			ZARZII_K03 (H2_K01)
E8	To actively participate in debates, demonstrating respect for the opponent and openness to a diversity of perspectives and cultural contexts, in order to initiate actions for the public interest.			ZARZII_K03 (H2_K01)
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	Written lecture credit	L		
E2	Written lecture credit	L		

E3	<i>Assessment of individual activity; teamwork; workshops; presentations; dram, and written tutorial credit</i>	C
E4	<i>Assessment of individual activity; teamwork; workshops; presentations; dram, and written tutorial credit</i>	C
E5	<i>Assessment of individual activity; teamwork; workshops; presentations; dram, and written tutorial credit</i>	C
E6	<i>Assessment of individual activity; teamwork; workshops; presentations; dram, and written tutorial credit</i>	C
E7	<i>Assessment of individual activity; teamwork; workshops; presentations; dram, and written tutorial credit</i>	C
E8	<i>Assessment of individual activity; teamwork; workshops; presentations; dram, and written tutorial credit</i>	C
Basic references	1 Abrams S., 2024, EmpoWord: A Student-Centered Anthology & Handbook For College Writers, Portland State University; Online access: https://ua.pressbooks.pub/bourneempoword/	
	2 Crick N., 2023, Rhetorical Public Speaking Social Influence in the Digital Age, imprint Routledge, New York; Online access: https://www.routledge.com/Rhetorical-Public-Speaking-Social-Influence-in-the-Digital-Age/Crick/p/book/9781032289847	
	3 Alford C., 2024, Entitled Opinions: Doxa after Digitality, University of Alabama Press; Online access: https://www.jstor.org/stable/jj.30347475	
Supplementary references	1 Frey R., 2024, The Theory, History, and Practice of Parrhesia: The Rhetoric of Resistance, Springer Nature Switzerland; Online access: https://content.e-bookshelf.de/media/reading/L-24280613-d1efbc1283.pdf	
	2 Garutti G., 2025, Watch Your Words: A Manifesto for the Arts of Speech, John Wiley & Sons, Madrid; Online access: https://www.politybooks.com/bookdetail?book_slug=watch-your-words-a-manifesto-for-the-arts-of-speech--9781509567294	
	3 Exploring Public Speaking: The Free College Public Speaking Textbook (4th Edition, 2020-2024); Online access: https://alg.manifoldapp.org/projects/exploring-public-speaking	
Course coordinator	<i>Andrzej Smolarczyk PhD.</i>	Date: 2026-05-07

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management				
Field of study		Management						Level and form of study		full-time second degree studies				
A group of modules /specialty		common courses						Education profile		general academic				
Course name		Conflict and crisis management in organization						Course code		Z2Eza2s.001				
								Course type		mandatory				
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester		2			
		15	30						ECTS credits		3			
The programme is valid from										2026/2027				
Introductory courses														
Course objectives		The course aims to provide structured and in-depth knowledge about the process of conflict management in organizations, as well as the importance of strategies and methods for resolving conflicts within organizations. The knowledge conveyed during the course also covers the specificity and essence of the crisis management process in organizations, along with the significance of complex anti-crisis strategies and crisis management plans, including early warning systems within organizations. The course also aims to develop practical professional skills and social competencies necessary for managing conflict and crisis in organizations, including the application of appropriate tools at various stages of crisis management, as well as the critical and in-depth evaluation of decisions made by organizations in conflict and crisis management processes.												
Framework programme content		The essence, typology, sources, structure, and phases of conflicts. The evolution of perspectives on conflict in organizations. Conflict management strategies and negotiation strategies. The psychological and ethical context of conflict management. The essence of crisis management in organizations. The typology, sources, and phases of crisis development in organizations. The vulnerability and adaptive capacity of an enterprise in crisis situations. Models of crisis management and anti-crisis strategies. Early warning systems in crisis management. Business Continuity Planning and crisis management plans in organizations.												
Other information about the course		the course is related to the scientific activity conducted at the University												
		Student workload related to:							Total number of hours		including contact		including practical	
Calculation:	participation in lectures							15		15		0		
	participation in other forms of activities							30		30		30		
	preparation for ongoing practical classes							20		0		20		
	preparation for passing a lecture							10		0		0		
	Total number of hours:							75		45		50		
Total number of ECTS credits:							3		1.8		2.0			
									Knowledge		Skills		Social competence	
Expected discipline learning outcomes		ZARZII_W01; ZARZII_W03; ZARZII_W06; ZARZII_W07							ZARZII_U01; ZARZII_U02; ZARZII_U03; ZARZII_U04; ZARZII_U07; ZARZII_U09		ZARZII_K05; ZARZII_K06			
Objectives and framework content prepared by		dr Agnieszka Konopelko							Date: 4.05.2026					
Implementation in the academic year										2026/2027				
		Lecture												
		1 Introductory issues: the essence of conflict and crisis												
		2 Typology and structure of conflicts; the evolution of approaches to conflict in organizations												
		3 The conflict cycle and phases of conflict												
		4 Conflict management strategies, methods and tools for conflict resolution												
		5 Phases and strategies of negotiation and mediation												
		6 The psychological and ethical context of conflict management												
		7 Typology and symptoms of crises												
		8 The essence of crisis management in organizations												
		9 Phases of crisis development in an enterprise												
		10 An enterprise's vulnerability to crisis and its adaptive capacity in crisis situations												
		11 Organizational culture and corporate crisis												
		12 Models of crisis management												
		13 Early warning systems in crisis management; Business Continuity Planning												
		14 Anti-crisis strategies												
		15 Written assessment												
		Classes												
Programme content		1 Introduction to the course topics; information on the organization of classes and assessment rules – 1 hour.												
		2 Sources of conflict: comparative analysis and discussion – 2 hours.												

	3	Analysis of conflict sources based on a case study – 2 hours.
	4	Internal and external sources of crises: comparative analysis and discussion – 2 hours.
	5	Positive and negative aspects of conflicts and crises: comparative analysis and discussion – 2 hours.
	6	Analysis of conflict phases based on a case study – 2 hours.
	7	Identification and analysis of conflict management strategies based on case studies and simulations – 2 hours
	8	Analysis of conflict resolution scenarios based on case studies – 2 hours.
	9	Analysis of the stages of the negotiation process based on case studies – 2 hours.
	10	Identification and analysis of the interests of potential participants in crisis situations (internal and external stakeholders) – 2 hours.
	11	Analysis of examples of crisis management in selected organizations – case studies – 2 hours.
	12	Analysis of a selected example of crisis management: text-based work, interpretation, and discussion – 2 hours.
	13	Identification and analysis of errors in crisis management based on selected examples – 2 hours.
	14	Preparation of a project on a crisis management plan in a manufacturing enterprise – 3 hours.
	15	Presentation of projects; summary of semester work – 2 hours.
Teaching methods (on-site classes)	L	problem-based lecture; informative lecture; lecture with a multimedia presentation
	C	practical project; case studies; text analysis and discussion
Teaching methods (online classes)	L	problem-based lecture; informative lecture; lecture with a multimedia presentation delivered via Microsoft Teams
	L	written assessment in the form of open-ended, problem-based questions
Forms of crediting	C	assessment based on points obtained from completing subsequent tasks and project assignment, and the students' activity
	L	The written assessment takes the form of open-ended problem questions. The final grade is determined based on the number of points obtained for: the substantive correctness of the answers, the accuracy of argumentation and reasoning, and the correct use of terminology. The points awarded for individual answers are summed and converted into a final grade according to the adopted grading scale: 91 – 100% (5.0); 81 – 90% (4.5); 71 – 80% (4.0); 61 – 70% (3.5); 51 – 60% (3.0); less than 51% (2.0).
Conditions of crediting	C	The final grade for the practical classes is based on the total number of points obtained from continuous assignments (60%) and the completion of the project (40%). The score may be increased for active participation during classes. Assessment criteria: 91 – 100% (5.0); 81 – 90% (4.5); 71 – 80% (4.0); 61 – 70% (3.5); 51 – 60% (3.0); less than 51% (2.0).

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	in-depth the essence and determinants of the conflict management process in organizations, as well as the importance of strategies and methods for resolving conflicts within organizations	ZARZII_W01; ZARZII_W03; ZARZII_W07		
E2	the specificity and essence of the crisis management process in organizations, as well as the importance of comprehensive anti-crisis strategies and crisis management plans, including early warning systems within organizations	ZARZII_W01; ZARZII_W03; ZARZII_W06		
Skills: the student can				
E3	solve complex problems related to conflict and crisis management processes in organizations based on selected case studies		ZARZII_U01; ZARZII_U02; ZARZII_U07	
E4	apply appropriate tools and present the individual stages of a crisis management plan		ZARZII_U03; ZARZII_U04; ZARZII_U07; ZARZII_U09	
Social competence: the student is ready to				
E5	responsibly perform professional roles related to conflict and crisis management, taking into account changing social needs and the highest ethical standards			ZARZII_K05; ZARZII_K06

Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	written assessment in the form of open-ended, problem-based questions	L
E2	written assessment in the form of open-ended, problem-based questions	L
E3	solving problem-based tasks; activity during classes	C
E4	project preparation	C
E5	solving problem-based tasks; activity during classes	C

Basic references	1	Cheta-Maclean S., Tobins G. N. A., Organizational conflict management and resolution: the role of leaders, International Journal of Economics, Environmental Development and Society, 2023, 4(3), 286-299. [Electronic document]. Access: https://ijeed.com.ng/assets/vol.%2C-4(3)-cheta-maclean---tobins.pdf .
	2	Ciekanowski Z., Nowicka J., Żurawski S., Czech A., Zdunek M., Crisis Management and Crisis Situation in the Organization, European Research Studies Journal 2023, Volume XXVI, Issue 4, 339-353. [Electronic document]. Access file:///C:/Users/Admin/Downloads/Crisis_Management_and_Crisis_Situation_in_the_Orga.pdf.
	3	Durst S., Henschel T., Crisis management for small and medium-sized enterprises (SMEs): strategies for external crises, Springer, Cham 2023.
	4	Gurdatta J. K., Mavani U., Sonawane A., Organizational crisis management, The Online Journal of Distance Education and e-Learning, January 2023, Volume 11, Issue 1, 776-790. [Electronic document]. Access https://www.tojdel.net/journals/tojdel/articles/v11i01c02/v11i01-52.pdf
	5	Neupane A., An overview of Organizational Conflict, Journal of Research in Business and Management, 2022, Volume 10, Issue 8, 145-149. [Electronic document]. Access https://www.questjournals.org/jrbm/papers/vol10-issue8/1008145149.pdf .
Supplementary references	1	Ciekanowski Z., Chrzęszcz A., Wysokińska A., Marciniak S., Crisis Management in Modern Organisations, European Research Studies Journal, 2024, Volume XXVII, Issue 3, 610-620. [Electronic document]. Access file:///C:/Users/Admin/Downloads/Crisis%20Management%20in%20Modern%20Organisations.pdf
	2	Giang L. H., Crisis Management and Organizational Resilience: A Framework for Long-Term Recovery and Growth, in: T. Hoang (ed.), Proceedings of the International Conference on Contemporary Studies in Social Sciences (ICSSSS 2025), Advances in Social Science, Education and Humanities Research 958, 44-54. [Electronic document]. Access file:///C:/Users/Admin/Downloads/126016598.pdf.
	3	Kinontao K., et all, Conflict Management Styles on Employees Job Satisfaction, Journal of Frontiers in Multidisciplinary Research, 2025, Vol. 6 (2), 547-554. [Electronic document]. Access https://www.multidisciplinaryfrontiers.com/uploads/archives/20251220114307_FMR-2025-2-178.1.pdf
	4	Ngulube R, Davy S., Assessing Conflict Management Mechanisms Used in Organizations: A Case Study of Banks in Lusaka City, International Journal of Advanced Multidisciplinary Research and Studies, 2025; 5(2),1956-1963. [Electronic document]. Access https://www.multiresearchjournal.com/admin/uploads/archives/archive-1745304067.pdf .
Course coordinator	<i>dr Agnieszka Konopelko</i>	
	Date:	5/4/2026

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY								Faculty of Engineering Management	
Field of study	Management							Level and form of study	full-time second degree studies
A group of modules /specialty	common courses							Education profile	general academic
Course name	Statistical data analysis							Course code	Z2Eza2s.002
								Course type	mandatory
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Semester	2
	15				30			ECTS credits	3
The programme is valid from								2026/2027	
Introductory courses									

Course objectives The primary objective of this course is to provide students with advanced knowledge of statistics and to develop the analytical thinking skills necessary for conducting reliable data analysis in management. The course is designed to prepare participants to use statistical software packages, such as STATISTICA, to support decision-making processes within organizations. Students will gain competence in selecting appropriate statistical methods and techniques to solve specific research problems and will acquire the practical ability to interpret results obtained through IT tools.

Framework programme content Data preparation, visualization methods, and graphical presentation of univariate and multivariate data. Statistical inference, significance tests, and analysis of variance (ANOVA). Correlation analysis and regression modeling of cause-and-effect relationships. Survey design, reliability assessment of measurement scales, and analysis of qualitative variables. Linear ordering methods, taxonomic issues, as well as cluster and factor analysis. Dynamics analysis using aggregate indices.

Other information about the course the course is related to the scientific activity conducted at the University

Calculation:	Student workload related to:	Total number of hours	including contact	including practical
	participation in lectures	15	15	
	participation in other forms of activities	30	30	30
	preparation for passing a lecture	5		
	preparation for the completion of classes	25		25
	Total number of hours:	75	45	55
	Total number of ECTS credits:	3	1.8	2.2

Expected discipline learning outcomes	Knowledge	Skills	Social competence
	ZARZII_W01	ZARZII_U03; ZARZII_U04	ZARZII_K01

Objectives and framework content prepared by dr inż. Anna Olszewska, prof. PB Date: 7.05.2026

Implementation in the academic year 2026/2027

Programme content	Lecture	
	1	Fundamental issues of statistical data analysis and their significance in decision-making processes
	2	Data preparation for analysis as a stage of preliminary verification and dataset transformation
	3	Methods for visualization of univariate and multivariate data in the presentation of research results
	4	Statistical inference as a tool for estimation and hypothesis testing of population parameters
	5	Analysis of Variance (ANOVA) as a method for comparing groups and examining factor effects
	6	Simple and partial correlation as a means of examining interdependencies between measurable variables
	7	Regression methods as a tool for modeling and forecasting cause-and-effect relationships
	8	Survey design as a research tool and statistical assessment of scale reliability
	9	Significance tests used for hypothesis verification in survey research
	10	Dependence analysis for qualitative data
	11	Linear ordering methods and the construction of synthetic development indicators in a taxonomic approach
	12	Grouping of objects in cluster analysis and processes of classification and segmentation
	13	Factor analysis as a method of data dimensionality reduction and identification of latent structures
	14	Aggregate statistical indices and the analysis of the dynamics of complex phenomena over time
	15	Final test
Programme content	Specialist workshop	
	1	Introduction to Statistica software and configuration of the analytical workspace
	2	Principles of using Statistica and Excel packages in data processing for management
	3	Practical methods of data presentation and their statistical description in a computer package
	4	Hypothesis testing using parametric significance tests in Statistica
	5	Conducting analysis of variance (ANOVA) to compare effects across multiple groups
	6	Correlation analysis between variables as a way to study the strength and direction of relationships
	7	Construction of linear and multiple regression models
	8	Response distribution analysis and statistical assessment of questionnaire reliability (Cronbach's Alpha coefficient)
	9	Application of parametric and non-parametric tests in survey data processing

	10	Examining relationships of non-measurable features in contingency table analysis and independence tests
	11	Determining object rankings using taxonomic methods and synthetic indicators
	12	Practical object segmentation in cluster analysis and data grouping procedures
	13	Database dimensionality reduction through factor analysis procedures
	14	Calculating dynamics indices and aggregate indicators for complex phenomena
	15	Project revision
Teaching methods (on-site classes)	L	Informative lecture and multimedia presentation
	SW	Project-based learning, individual and group work
Teaching methods (online classes)	L	Informative lecture and multimedia presentation
Forms of crediting	L	Final test
	SW	Project completion and submission
Conditions of crediting	L	Obtaining at least 51% of the total score on the test. Final grade: (0-50)% of points - 2.0; (51-60)% of points - 3.0; (61-70)% of points - 3.5; (71-80)% of points - 4.0; (81-90)% of points - 4.5; (91-100)% of points - 5.0.
	SW	Project completion, obtaining at least 51% of the total score from all projects. Final grade: (0-50)% of points - 2.0; (51-60)% of points - 3.0; (61-70)% of points - 3.5; (71-80)% of points - 4.0; (81-90)% of points - 4.5; (91-100)% of points - 5.0

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	theoretical aspects of statistical inference and advanced methods for modeling cause-and-effect relationships	ZARZII_W01		
E2	methodology for selecting statistical tools for the analysis of complex phenomena and principles of multidimensional structure taxonomy	ZARZII_W01		
Skills: the student can				
E3	select and apply advanced statistical methods, such as regression models, analysis of variance, or multivariate techniques, to solve decision-making problems in management		ZARZII_U03, ZARZII_U04	
E4	utilize selected modules of a statistical software package for processing, visualizing, and interpreting quantitative data derived from research in the field of management		ZARZII_U03, ZARZII_U04	
Social competence: the student is ready to				
E5	collaborate within a team on data analysis and presentation of results, demonstrating responsibility for one's own part of the task and openness to discussion and constructive criticism			ZARZII_K01

Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	<i>Written assessment in the form of a test</i>	L
E2	<i>Written assessment in the form of a test</i>	L
E3	<i>Project execution</i>	SW
E4	<i>Project execution</i>	SW
E5	<i>Project execution</i>	SW

Basic references	1	Spiegelhalter D. The Art of Statistics : Learning from Data, Pelican an imprint of Penguin Books, London 2020.
	2	Spiegelhalter D. The Art of Uncertainty : How to Navigate Chance, Ignorance, Risk and Luck, Pelican an imprint of Penguin Books, Dublin 2024.
	3	Staszkiewicz R., Kurkliński I., Majczyk A., Milke M., Staszkiewicz I., Szymańska M., Teens4teens: Statistics, SGH Publishing House, Warsaw 2020.

Supplementary references	1	Domino K. Selected Methods for Non-Gaussian Data Analysis. IITiS PAN, Gliwice 2019.
	2	James G., Witten D., Hastie T., Tibshirani R., An Introduction to Statistical Learning: With Applications in R, Springer, New York 2021.

Course coordinator	dr inż. Anna Olszewska, prof. PB	Date:	5/7/2026
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BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management									
Field of study		Management						Level and form of study		full-time second degree studies									
A group of modules /specialty		common courses						Education profile		general academic									
Course name		Change management						E		Course code		Z2Eza2s.003							
										Course type		mandatory							
Course form(s) and number of hours		L		C		LC		P		SW		FW		S		Semester		2	
		30		30												ECTS credits		5	
The programme is valid from		2026/2027																	
Introductory courses																			
Course objectives		As a result of the course, students will acquire knowledge and skills in restructuring, change management, planning, and implementation. The theoretical knowledge acquired will be supported by practical experience. Students will also acquire social competencies in flexibly responding to market needs.																	
Framework programme content		The nature and characteristics of change and restructuring. Types of change and restructuring. Planning and execution of the change and restructuring process. The importance of corporate governance in the change and restructuring process. Leadership and resistance to change. Control and monitoring of the change process. Measuring and assessing the effectiveness of change and restructuring processes. Contemporary changes in the business environment and their determinants. The nature and characteristics of change and restructuring. Types of change and restructuring. Planning and execution of the change and restructuring process. Leadership and resistance to change. Control and monitoring of the change process. Measuring and assessing the effectiveness of change and restructuring processes.																	
Other information about the course		the course is related to the scientific activity conducted at the University																	
		Student workload related to:										Total number of hours		including contact		including practical			
		participation in lectures										30		30					
		participation in other forms of activities										30		30		30			
Calculation:		participation in exams organized outside the scheduled classes										2		2					
		preparation for the exam										8							
		preparation for classes										48				48			
		preparation of a presentation										7				7			
		Total number of hours:										125		62		85			
		Total number of ECTS credits:										5		2.5		3.4			
												Knowledge		Skills		Social competence			
Expected discipline learning outcomes												ZARZII_W01; ZARZII_W02; ZARZII_W05		ZARZII_U01; ZARZII_U02		ZARZII_K01; ZARZII_K04; ZARZII_K05			
Objectives and framework content prepared by		dr hab. Jerzy Paszkowski, dr Andrzej Pawluczuk										Date:		6.05.2026					
Implementation in the academic year		2026/2027																	
		Lecture																	
		1 Introduction to change management																	
		2 The characteristics of change and restructuring.																	
		3 Models of change management in organizations.																	
		4 Planning and conducting the change and restructuring process.																	
		5 Leadership and resistance in the change process.																	
		6 The role of the Supervisory Board in change management and restructuring.																	
		7 Selected legal aspects of various forms of corporate restructuring.																	
		8 The practice of restructuring through division and spin-off.																	
		9 The relationship between the situational management of the leader/manager and the competency profile of the change recipients.																	
		10 Best practice of change management in the examples of COVID and other global challenges.																	
		11 Differences between various approaches in corporate restructuring.																	
		12 Controlling and monitoring the change process.																	
		13 Measuring and assessing the effectiveness of change and restructuring processes.																	
		14 Current trends in change management.																	
		15 Summary of knowledge before the exam.																	
Programme content		Classes																	
		1 Organization of the exercise, the structure of the case study, and the division into teams.																	
		2 The basic change cycle in an organization.																	
		3 Cycle-based enterprise management - part 1.																	
		4 Cycle-based enterprise management - part 2.																	

	5	Improving organizational effectiveness through change management before a planned NASDAQ IPO.
	6	Changing the organizational structure during the organizational change process.
	7	Reorganizing the company through spin-offs and divisions.
	8	Change management in the event of supplier or customer bankruptcy.
	9	Restructuring the company in the face of financial liquidity shortages.
	10	Leadership during change implementation.
	11	Leadership characteristics in the change management process.
	12	Case study on change control and monitoring.
	13	The roles of the management board, supervisory board, and owners in the change management and/or restructuring process.
	14	Teamwork assessment and evaluation.
	15	Summary of the exercises and key conclusions from the completed cases.
Teaching methods (on-site classes)	L	lecture with multimedia presentation; problem-based lecture;
	C	case studies, presentation
Teaching methods (online classes)	L	lecture with multimedia presentation; problem-based lecture;
Forms of crediting	L	Written examination consisting of a test and a section of open-ended questions + additional extra points of attendance at the lectures
	C	completing case studies, presentations and defending one assignment

	L	Written exam. Points awarded as follows: 91% - 100% points 5.0 (the intended learning outcomes were achieved, with any individual inconsistencies that are not relevant to the achievement of individual outcomes) 81% - 90% points 4.5 (the intended learning outcomes were achieved with few errors) 71% - 80% points 4.0 (the intended learning outcomes were achieved with a number of errors and/or individual omissions) 61% - 70% points 3.5 (the intended learning outcomes were achieved with significant errors and/or omissions) 51% - 60% points 3.0 (the intended learning outcomes were achieved with major errors or omissions (minimum required level, acceptable to the academic teacher) 50% or less points 2.0 (the intended learning outcomes were not achieved)
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Conditions of crediting

C	The final grade for the exercises will consist of an assessment of the case studies, followed by its presentation to the group, along with a defense (answering questions). Grading will be based on the following formula: 91% - 100% points 5.0 (the intended learning outcomes were achieved, with any individual inconsistencies that are not relevant to the achievement of the individual outcomes) 81% - 90% points 4.5 (the intended learning outcomes were achieved with few errors) 71% - 80% points 4.0 (the intended learning outcomes were achieved with a number of errors and/or individual omissions) 61% - 70% points 3.5 (the intended learning outcomes were achieved with significant errors and/or omissions) 51% - 60% points 3.0 (the intended learning outcomes were achieved with significant errors or omissions (the minimum required level, accepted by the academic teacher) 50% or less points 2.0 (the intended learning outcomes were not achieved)
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Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	Advanced understanding of the phenomena and processes of change management and restructuring in relation to changes occurring in the environment.	ZARZII_W01; ZARZII_W05		
E2	In-depth understanding of the role of leadership in the change management process, resistance and ways to overcome it.	ZARZII_W02		
Skills: the student can				
E3	At an advanced level, can prepare managerial actions to implement changes or reorganize the enterprise in response to or in anticipation of the situation in the organization's environment.		ZARZII_U01	
E4	Defines, at a deeper level, innovative solutions that improve the organization's efficiency and build its competitive advantages.		ZARZII_U02	
Social competence: the student is ready to				
E5	Active and constructive participation in teamwork, presenting and arguing one's own knowledge, listening to team members, understanding roles in the organization during the processes of creating restructuring plans and managing changes when solving case studies			ZARZII_K01; ZARZII_K04; ZARZII_K05
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	Written examination consisting of a test and a section of open-ended questions		L	

E2	<i>Written examination consisting of a test and a section of open-ended questions</i>		L
E3	<i>case studies, presentation</i>		C
E4	<i>case studies, presentation</i>		C
E5	<i>case studies, presentation</i>		C
Basic references	1	Franklin M., Agile Change Management, A Practical Framework for Successful Change Planning and Implementation, Kogan Page, 2021	
	2	Green M., Making Sense of Change Management: A Complete Guide to the Models, Tools and Techniques of Organizational Change Mike Green, 6th edition, Kogan Page, 2024	
	3	Nesvold H. P., Anapolsky J. H., Reed Lajoux A., The Art of Distressed M&A. Buying, Selling and Financing Troubled and Insolvent Companies, McGraw Hill 2023	
Supplementary references	1	The Change Practice Playbook, Change Management Institute, 2025	
	2	Lewis L., Organizational change: creating change through strategic communication, Wiley-Blackwell, Hoboken 2019	
	3	Harvard Business Review, https://harvardbusiness.e-learning.pl/harvard-business-publishing-collection/ .	
Course coordinator	<i>dr hab. Jerzy Paszkowski, prof. PB</i>		Date: 6.05.2026

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management	
Field of study	Management							Level and form of study	full-time second degree studies		
A group of modules /specialty	common courses							Education profile	general academic		
Course name	Personnel and payroll strategies							Course code	Z2Eza2s.004		
								Course type	mandatory		
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Semester	2		
	15	30						ECTS credits	3		
The programme is valid from								2026/2027			
Introductory courses								Z2Eza1s.004			

Course objectives	The aim of the course is to provide up-to-date, systematic, and in-depth knowledge on HR and compensation strategies, as well as the determinants of their selection and effective implementation. The course also aims to develop practical professional skills and social competencies necessary for the implementation of HR and compensation strategies in professionally managed organizations, including analytical, decision-making, and managerial skills.
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Framework programme content	Strategic analysis in personnel and compensation policy. Recruitment, staff selection, and employee professional development strategies. Talent and competence as strategic organizational resources. A strategic approach to managing employee compensation systems and benefits systems (organizational, psychosocial, and legal determinants). The concept of Green HRM and ESG in an organization's personnel policy.
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Other information about the course	content of the course refers to the principles of sustainable development the course is related to the scientific activity conducted at the University
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	Student workload related to:	Total number of hours	including contact	including practical
Calculation:	participation in lectures	15	15	
	participation in other forms of activities	30	30	30
	preparation for passing a lecture	10		
	preparation for classes	20		20
	Total number of hours:	75	45	50
	Total number of ECTS credits:	3	1.8	2.0

		Knowledge	Skills	Social competence
Expected discipline learning outcomes		ZARZII_W03; ZARZII_W07	ZARZII_U03; ZARZII_U05; ZARZII_U07	ZARZII_K03; ZARZII_K05
Objectives and framework content prepared by	dr Joanna Samul	Date: 01.05.2026		

Implementation in the academic year	2026/2027
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	Lecture
	1 Introduction to the course topics and lecture assessment requirements
	2 HR strategies versus business and organizational development strategies
	3 Recruitment and selection strategies in the context of labor market characteristics
	4 Strategies for developing the organization's human potential
	5 Employee compensation policy – determinants of strategy selection
	6 Designing compensation policy
	7 Pay transparency – objectives and conditions for implementing the system
	8 Benefits system management
	9 Measuring the effectiveness of compensation strategies
	10 Job evaluation tools
	11 Family-friendly organizational strategies as an element of ESG
	12 Neurodiversity management as an element of HR strategy
	13 The concept of Green HRM
	14 Talent and competencies as a strategic organizational resource
	15 Lecture assessment
	Classes
	1 Introduction to the course topics and familiarization of students with the assessment requirements
	2 Strategic analysis of an organization in the context of HR strategy selection
	3 Developing skills in designing and implementing recruitment and selection strategies
	4 Developing skills in designing and implementing human potential development strategies
	5 Analysis of the determinants of compensation strategies
	6 Analysis of practical solutions in designing compensation policy – Part 1
	7 Analysis of practical solutions in designing compensation policy – Part 2
	8 Benefits systems – diagnosis and case study
	9 Tools for designing and managing compensation systems
	10 Developing practical skills in measuring the effectiveness of compensation strategies. Case study
	11 Practical solutions in the field of family-friendly organizational policies. Case study

	12	Implementing neurodiversity management strategies
	13	Practical solutions for implementing the Green HRM concept
	14	Developing skills in designing and implementing competency and talent management strategies
	15	Course assessment
Teaching methods (on-site classes)	L	Problem-based lecture, conversational lecture, informative lecture, lecture with multimedia presentation
	C	Classroom exercises / tutorial classes
Teaching methods (online classes)	L	Problem-based lecture, conversational lecture, informative lecture, lecture with multimedia presentation
	C	Classroom exercises / tutorial classes
Forms of crediting	L	Written test with open-ended questions
	C	grades obtained from completed problem-based assignments
Conditions of crediting	L	The written lecture assessment consists of open-ended questions. For each correct answer to each question, the student may receive 2 points. The final grade is assigned according to the following criteria: 100–91% — very good (5.0); 90–81% — good plus (4.5); 80–71% — good (4.0); 70–61% — satisfactory plus (3.5); 60–51% — satisfactory (3.0); below 51% — fail (2.0).
	C	The course grade for practical classes is the sum of grades obtained from completed exercises — 2 point for each exercise. The final grade is assigned according to the following criteria: 100–91% — very good (5.0); 90–81% — good plus (4.5); 80–71% — good (4.0); 70–61% — satisfactory plus (3.5); 60–51% — satisfactory (3.0); below 51% — fail (2.0).

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
	Knowledge: the student knows and understands			
E1	advanced methods of designing and implementing HR and compensation strategies	ZARZII_W03		
E2	in-depth economic, legal, cultural, psychological, and ethical determinants of designing and implementing HR and compensation strategies	ZARZI_W07		
	Skills: the student can			
E3	effectively design and implement HR and compensation strategies in accordance with the principles of sustainable development (ESG)		ZARZII_U05	
E4	evaluate, critically analyze, and synthesize information, as well as creatively interpret and present it while communicating on issues related to the design and implementation of HR and compensation strategies		ZARZII_U03; ZARZII_U07	
	Social competence: the student is ready to			
E5	promoting and implementing sustainable development policies within the organization's social policy			ZARZII_K03
E6	responsibly performing professional roles within an organization, with consideration for ethical principles, responsibility for interpersonal relations, and respect for standards of cooperation in the workplace			ZARZII_K05

Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	<i>Written test with open-ended questions</i>	L
E2	<i>Written test with open-ended questions</i>	L
E3	<i>Solving problem-based tasks with discussion and presentation</i>	C
E4	<i>Solving problem-based tasks with discussion and presentation</i>	C
	<i>Solving problem-based tasks with discussion and presentation</i>	C
E5	<i>Solving problem-based tasks with discussion and presentation</i>	C
Basic references	1 Malik A., Malik A., Strategic Human Resource Management and Employment Relations, Cham: Springer Nature, 2018	
	2 Nicolescu O., Nicolescu C., Redefining Management: The Manager/Leader–Relevant Stakeholder Paradigm, Routledge, 2025	
	3 Stor M., Human Resources Management in Multinational Companies: A Central European Perspective, Routledge, New York 2023	
Supplementary references	1 Boselie P., van Harten J, Breit E., Aksnes S., Shaping Inclusive Workplaces for Persons with Disabilities: A Management and HRM Practitioner Perspective, Springer Nature, 2026	
	2 Athanasios N., Management and Analysis of Salary Costs in in Combination with the New Flexible Forms of Employment and Teleworking, Employee responsibilities and rights journal, 2025, Vol.37 (3), p.357-366.	
	3 Vilas Boas A.A, Human Resource Management - An Update, Intechopen, 2024	
Course coordinator	dr Joanna Samul	Date: 5/1/2026

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY								Faculty of Engineering Management				
Field of study	Management							Level and form of study	full-time second degree studies			
A group of modules /specialty	common courses							Education profile	general academic			
Course name	Process management							Course code	Z2Eza2s.005			
								Course type	mandatory			
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Semester	2			
	15				45			ECTS credits	5			
The programme is valid from								2026/2027				
Introductory courses												
Course objectives	Understanding the key aspects of the process-oriented approach to enterprise management. Acquiring skills in business process management principles and methods. Familiarity with IT tools supporting process management.											
Framework programme content	The course covers Business Process Management (BPM) as a systematic approach to the identification, modelling, implementation, monitoring and continuous improvement of processes within an organisation. It addresses the fundamentals of the process-oriented approach, the BPM lifecycle, and methods of process analysis and description, including process structure, classification and architecture. The content also includes process performance measurement and organisational roles within BPM. Consideration is given to BPM governance as well as the use of digital technologies (e.g. automation and artificial intelligence) and maturity models in process improvement. Particular emphasis is placed on the practical application of BPM in organisations and its significance for organisational efficiency, quality and adaptability.											
Other information about the course	the course is related to the scientific activity conducted at the University											
Calculation:	Student workload related to:							Total number of hours	including contact	including practical		
	participation in lectures							15	15			
	participation in other forms of activities							45	45	45		
	preparation for passing a lecture							10				
	preparation for classes							35		35		
	preparation for the completion of classes							20		20		
	Total number of hours:							125	60	100		
Total number of ECTS credits:							5	2.4	4.0			
Expected discipline learning outcomes								Knowledge	Skills	Social competence		
								ZARZII_W01; ZARZII_W02	ZARZII_U01; ZARZII_U04	ZARZII_K04		
Objectives and framework content prepared by	dr hab. inż. Arkadiusz Jurczuk, prof. PB							Date:	7.05.2026			
Implementation in the academic year								2026/27				
Programme content	Lecture											
	1	Introduction to the course and assessment requirements. Trends in the process-oriented approach to management										
	2	The essence and evolution of the process-oriented approach to management										
	3	The concept and structure of processes										
	4	Process architecture										
	5	Principles of business process management										
	6	Business process management lifecycle, Part 1										
	7	Business process management lifecycle, Part 2										
	8	Process identification and description										
	9	Selected methods for identifying process inconsistencies										
	10	Sources of process information										
	11	Process monitoring, Part 1										
	12	Process monitoring, Part 2										
	13	Fundamentals of process governance										
	14	Maturity models and maturity assessment										
	15	Final test										
	Specialist workshop											
	1	Course organisation and regulations. Introduction to the principles of process identification and description within the BPM lifecycle										
	2	Development of process architecture. Value stream mapping										
	3	Identification and description of process structures using business notation, Part 1										
	4	Identification and description of process structures using business notation, Part 2										
	5	Definition of roles and responsibilities in business processes										
	6	Parameterisation of process models										
	7	Development of document models and definition of data objects										
	8	Use of queries for diagnosing and verifying the completeness of process descriptions										
	9	Quantitative assessment of "as-is" processes. Time-cost analysis using specialised IT tools, Part 1										

	10	Quantitative assessment of "as-is" processes. Time–cost analysis using specialised IT tools, Part 2		
	11	Advanced analytical tools in process diagnosis		
	12	Evaluation and recommendations for business process improvements. "To-be" process documentation		
	13	Analysis and evaluation of a case study on the implementation of process management elements		
	14	Final test 1		
	15	Final test 2		
Teaching methods (on-site classes)	L	Informative lecture; lecture supported by multimedia presentation		
	SW	Project-based method; case study		
Teaching methods (online classes)	L	Informative lecture; lecture supported by multimedia presentation		
Forms of crediting	L	Written test		
	SW	Written test using IT tools for process management		
Conditions of crediting	L	Assessment with a grade based on the total number of points obtained in the test. A positive course grade is awarded provided that at least 51% of the total points is achieved in the final test (pass: 51–60%, pass plus: 61–70%, good: 71–80%, good plus: 81–90%, very good: 91–100%). A prerequisite for passing the course is the achievement of all intended learning outcomes.		
	SW	A positive course grade is determined by the number of points obtained in the final test, with a minimum threshold of 51% of the total points (pass: 51–60%, pass plus: 61–70%, good: 71–80%, good plus: 81–90%, very good: 91–100%). A prerequisite for passing the course is the achievement of all intended learning outcomes, attendance at classes, and completion of an individual project.		
Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	the essence of the process-oriented approach and the Business Process Management (BPM) lifecycle, including methods for process identification, modelling, analysis and improvement	ZARZII_W01; ZARZII_W02		
E2	the principles of designing process structures within an organisation, including process architecture, process roles, and the importance of BPM governance and digital technologies	ZARZII_W01; ZARZII_W02		
Skills: the student can				
E3	identify and classify processes within an organisation, and define their objectives, structure and interrelationships		ZARZII_U01; ZARZII_U04	
E4	model and document processes using selected methods and tools, and interpret their execution		ZARZII_U01; ZARZII_U04	
E5	analyse process performance, identify problems, and propose improvement actions, taking into account organisational and technological conditions		ZARZII_U01; ZARZII_U04	
Social competence: the student is ready to				
E6	collaborate effectively in project teams and actively and creatively seek solutions to business problems, taking into account the needs of process stakeholders			ZARZII_K04
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	Written test		L	
E2	Written test		L	
E3	Written test		SW	
E4	Written test		SW	
E5	Written test		SW	
E6	Observation of student performance during classes		SW	
Basic references	1	Jeston J., Business Process Management: Practical Guidelines to Successful Implementations (5th ed.), Routledge, 2024.		
	2	Weske M., Business Process Management: Concepts, Languages, Architectures (4th ed.), Springer, 2024.		
	3	Sinur J., Misiak Z., Biernatowski B., Practical business process modeling and analysis: Design and optimize business processes incrementally, Packt Publishing, 2025.		
Supplementary references	1	Harmon P., Business Process Change: A Business Process Management Guide for Managers and Process Professionals (5th ed.), Morgan Kaufmann, 2024.		
	2	Vom Brocke J., Mendling J., Rosemann M. (Eds.), Business Process Management Cases Vol. 2: Digital Transformation – Strategy, Processes and Execution, Springer, 2021.		
	3	Tregear R., Elements: The key elements of effective process-based management, Leonardo Consulting, 2024.		
	4	Laguna M., Marklund J., Business process analytics: Modeling, simulation and design (wyd. 4), Routledge, 2025.		
Course coordinator	dr hab. inż. Arkadiusz Jurczuk, prof. PB		Date:	5/5/2026

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management				
Field of study		Management						Level and form of study		full-time second degree studies				
A group of modules /specialty		common courses						Education profile		general academic				
Course name		Logistics management						Course code		Z2Eza2s.006				
								Course type		mandatory				
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester		2			
		15	15						ECTS credits		2			
The programme is valid from										2026/2027				
Introductory courses														
Course objectives		The course objectives for Logistics Management students focus on translating flow theory into practical business decisions. Logistics, in this approach, is not just about "transport and warehousing," but also a strategic element in building competitive advantage.												
Framework programme content		The history and concept of logistics. The logistics environment. Logistics in the organizational structure of an enterprise. Transport as a link in the logistics chain. Carrier selection. Storage. Inventory management. Plant and warehouse location. Information systems in logistics. Distribution channel management. Customer service. Service quality in the logistics system. Logistics-oriented management. Managing emergency and uncertain situations. Global logistics issues. City logistics. Logistics in tourism. Recycling and waste logistics.												
Other information about the course		content of the course refers to the principles of sustainable development the course is related to the scientific activity conducted at the University												
		Student workload related to:							Total number of hours		including contact		including practical	
Calculation:		participation in lectures							15		15			
		participation in other forms of activities							15		15		15	
		preparation for passing a lecture							4					
		preparation for classes							16				16	
		Total number of hours:							50		30		31	
		Total number of ECTS credits:							2		1.2		1.2	
									Knowledge		Skills		Social competence	
Expected discipline learning outcomes									ZARZII_W04; ZARZII_W06		ZARZII_U04; ZARZII_U06; ZARZII_U09		ZARZII_K01	
Objectives and framework content prepared by		Maciej Dobrzyński							Date: 7.05.2026					
Implementation in the academic year										2026/2027				
		Lecture												
		1 The Evolution and Essence of Business Logistics												
		2 Logistics Strategy and Corporate Strategy												
		3 Customer Service as a Logistics Product												
		4 Inventory Management in the Enterprise												
		5 Supply and Purchasing Logistics												
		6 Production Logistics												
		7 Warehouse Infrastructure and Storage Processes												
		8 Transport and Forwarding Management												
		9 Logistics Costs and Controlling												
		10 Global Supply Chain Management (SCM)												
		11 IT Systems in Logistics												
		12 Logistics Outsourcing												
		13 City Logistics and E-Commerce												
		14 Green Logistics												
		15 The Future of Logistics Management. Written assessment												
Programme content		Classes												
		1 Assortment Structure Analysis (ABC/XYZ Method)												
		2 Determining the Optimal Order Quantity (EOQ Model)												
		3 Demand Forecasting in Logistics												
		4 Warehouse Layout Design												
		5 Center of Gravity Method												
		6 Transport Route Optimization												
		7 Unit Load Formation												
		8 Bullwhip Effect Simulation. Test 1												
		9 Supplier Evaluation and Selection												

	10	Contract Logistics and Outsourcing	
	11	Logistics Performance Measures	
	12	Logistics Costing	
	13	Reverse Logistics and E-Commerce	
	14	Ecological Logistics in Practice	
	15	Risk and Business Continuity Management. Test2	
Teaching methods (on-site classes)	L	problem-based lecture with multimedia presentation	
	C	calculation exercises; revision tests	
Teaching methods (online classes)	L	getting at least half of the answers correct	
Forms of crediting	L	written test	
	C	written test; solving problem tasks	
Conditions of crediting	L	The written assessment for the lecture takes the written form of a test with closed-ended questions. Students can earn 1 point for each correct answer. A grade of 3.0 is obtained by achieving a minimum score of 51%. Final grade: (0-50)% of points - 2.0; (51-60)% of points - 3.0; (61-70)% of points - 3.5; (71-80)% of points - 4.0; (81-90)% of points - 4.5; (91-100)% of points - 5.0	
	C	The grade for the tutorials consists of the grade for the mini-projects completed during the tutorials (40%) and the grade for the test (60%). A total of 20 points can be awarded for the completion of each mini-project. The test is worth 30 points. A grade of 3.0 is awarded after achieving a minimum score of 51%. Final grade: (0-50)% of points - 2.0; (51-60)% of points - 3.0; (61-70)% of points - 3.5; (71-80)% of points - 4.0; (81-90)% of points - 4.5; (91-100)% of points - 5.0.	
Outcome symbols	Expected learning outcomes		Expected learning outcomes defined for the field of study
			Knowledge Skills Social competence
	Knowledge: the student knows and understands		
E1	in-depth understanding of logistics management concepts in relation to their specialty.	ZARZII_W04	
E2	In-depth understanding of fundamental supply chain management dilemmas arising from the current geopolitical situation.	ZARZII_W06	
	Skills: the student can		
E3	select and apply tools for in-depth analysis of data from logistics systems.		ZARZII_U04
E4	formulate research questions related to simple logistics research problems.		ZARZII_U06
E5	manage teamwork in conditions of supply chain uncertainty.		ZARZII_U09
	Social competence: the student is ready to		
E6	independently select and critically evaluate knowledge in the field of logistics management		ZARZII_K01
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification	
E1	written test		L
E2	written test		L
E3	written test		C
E4	solving problem tasks		C
E5	written test		C
E6	solving problem tasks		C
Basic references	1 Christopher M., Logistics and Supply Management, Pearson Education, 2022. 2 Cohen M. C., Dai T. ed., AI in Supply Chains: Perspectives from Global Thought Leaders, Springer, 2025 3 Meredith J. R., Shafer S. M., Operations and Supply Chain Management for MBAs, Wiley, 2023 4 Russell R. S., Taylor B. W., Operations and Supply Chain Management, Wiley, 2023.		
Supplementary references	1 Pagano A. M., Liotine M., Technology in Supply Chain Management and Logistics: Current Practice and Future Applications, Elsevier, 2026. 2 Bowersox M. C. D., Closs D., Supply Chain Logistics Management ISE, McGraw-Hill Education, 2023. 3 Langley C., Novack R., Supply Chain Management: A Logistics Perspective, Cengage Learning, 2024.		
Course coordinator	Maciej Dobrzyński		Date: 5/7/2026

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY								Faculty of Engineering Management			
Field of study	Mangement							Level and form of study	full-time second degree studies		
A group of modules /specialty	Innovation & Business Management							Education profile	general academic		
Course name	Innovation and strategic management							Course code	Z2Eza2s.011		
								Course type	elective		
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Semester	2		
	15	30						ECTS credits	3		
The programme is valid from								2026/2027			
Introductory courses											
Course objectives	This course is designed to equip students with the knowledge and skills necessary to manage innovation strategically within an organization. It focuses on understanding how businesses can develop, implement, and sustain innovative practices to gain competitive advantages in dynamic markets.										
Framework programme content	This course explores the intersection of innovation and strategic management, equipping students with essential skills to drive business growth in dynamic markets. The subject covers key topics such as types and models of innovation, strategic thinking, business model innovation, risk management, and emerging trends in digital transformation. Students will analyze real-world cases, examine competitive strategies, and explore the role of technology in shaping innovation.										
Other information about the course	content of the course refers to the principles of sustainable development the course is related to the scientific activity conducted at the University										
Calculation:	Student workload related to:							Total number of hours	including contact	including practical	
	participation in lectures							15	15		
	participation in other forms of activities							30	30	30	
	preparation for passing a lecture							5			
	completion of a project							25		25	
	Total number of hours:							75	45	55	
	Total number of ECTS credits:							3	1.8	2.2	
Expected discipline learning outcomes								Knowledge	Skills	Social competence	
								ZARZII_W01; ZARZII_W02; ZARZII_W03; ZARZII_W04; ZARZII_W05; ZARZII_W08	ZARZII_U01; ZARZII_U02; ZARZII_U03; ZARZII_U04	ZARZII_K01	
Objectives and framework content prepared by	dr Urszula Kobylińska							Date:	4/30/2026		
Implementation in the academic year								2026/2027			
Programme content	Lecture										
	1	Introduction to Innovation and Strategic Management									
	2	Types and Models of Innovation									
	3	The Role of Strategic Thinking in Innovation. Innovation Processes and Methods (part 1)									
	4	The Role of Strategic Thinking in Innovation. Innovation Processes and Methods (part 2)									
	5	Technology and Digital Transformation in Innovation. Aspects of sustainability in innovations									
	6	Managing Innovation in Large Organizations and Startups. Entrepreneurial Innovation and Business Model Innovation (part 1)									
	7	Managing Innovation in Large Organizations and Startups. Entrepreneurial Innovation and Business Model Innovation (part 2)									
	8	Risk Management and Barriers to Innovation									
	9	Competitive Advantage through Innovation. Intellectual Property and Legal Aspects of Innovation (part 1)									
	10	Competitive Advantage through Innovation. Intellectual Property and Legal Aspects of Innovation (part 2)									
	11	Open Innovation and Collaboration. Innovation Policy and Government Support (part 1)									
	12	Open Innovation and Collaboration. Innovation Policy and Government Support (part 2)									
	13	Sustainable Innovation and Corporate Social Responsibility (CSR). Future Trends in Innovation and Strategic Management (part 1)									
	14	Sustainable Innovation and Corporate Social Responsibility (CSR). Future Trends in Innovation and Strategic Management (part 2)									
15	Summary and passing the lecture										
Classes											
	1	Case Study Analysis – Innovation Success & Failure. STEEPVL Analysis for Innovation Strategy (part 1)									
	2	Case Study Analysis – Innovation Success & Failure. STEEPVL Analysis for Innovation Strategy (part 2)									
	3	Brainstorming and Ideation Workshop (SCAMPER method). Developing an Agile Innovation Process (part 1)									

	4	Brainstorming and Ideation Workshop (SCAMPER method). Developing an Agile Innovation Process (part 2)
	5	Technology Trend Mapping. Business Model Innovation Challenge (part 1)
	6	Technology Trend Mapping. Business Model Innovation Challenge (part 2)
	7	Risk Management in Innovation Projects
	8	Competitive Strategy Simulation
	9	Patent, IP Strategy, Open Innovation and Crowdsourcing Workshop (part 1)
	10	Patent, IP Strategy, Open Innovation and Crowdsourcing Workshop (part 2)
	11	Sustainability-Driven Innovation Challenge (part 1)
	12	Sustainability-Driven Innovation Challenge (part 2)
	13	Future Trends in Innovation - scenario analysis workshop (part 1)
	14	Future Trends in Innovation - scenario analysis workshop (part 2)
	15	Summary and final evaluation (2h)
Teaching methods (on-site classes)	L	informational lecture with the multimodal presentation
	C	case study, project, workshop method
Teaching methods (online classes)	L	informational lecture with the multimodal presentation
Forms of crediting	L	written final test
	C	evaluation of completed tasks and projects, evaluation of the prepared presentations
Conditions of crediting	L	The final grade is based on the number of points obtained by the student in the written test. Assessment criteria: 5.0 – 100–91% of the total possible points 4.5 – 90–81% 4.0 – 80–71% 3.5 – 70–61% 3.0 – 60–51% 2.0 – below 51%
	C	The student is required to actively participate in classes, submit the tasks, the project and presentations by the specified deadline. The final grade is based on the total number of points obtained by the student. Assessment criteria: 5.0 – 100–91% of the total possible points obtained during classes 4.5 – 90–81% 4.0 – 80–71% 3.5 – 70–61% 3.0 – 60–51% 2.0 – below 51%

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	has in-depth knowledge of concepts, models and processes of innovation and strategic management, including innovation types, innovation processes, and business model innovation	ZARZII_W01; ZARZII_W02; ZARZII_W03; ZARZII_W04; ZARZII_W05		
E2	understands the role of technological transformation, sustainability, intellectual property, and legal frameworks in shaping innovation strategies and competitive advantage	ZARZII_W08		
Skills: the student can				
E3	design and implement innovation processes and solutions, including the use of ideation methods, strategic analysis tools (e.g. STEEPVL), and agile approaches in innovation projects		ZARZII_U01; ZARZII_U02; ZARZII_U03; ZARZII_U04	
E4	analyze and solve complex innovation-related problems by selecting and applying appropriate methods and tools, including risk assessment, technology trend mapping, and strategic simulations		ZARZII_U04	
Social competence: the student is ready to				
E6	critically evaluate innovation strategies and solutions and recognize the importance of expert knowledge and collaboration in managing innovation in dynamic and uncertain environments			ZARZII_K01
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	final test (written)	L		
E2	final test (written)	L		
E3	preparation of projects and presentations	C		
E4	preparation of projects and presentations	C		

E5	<i>preparation of projects and presentations</i>	C
E6	<i>preparation of projects and presentations</i>	C
Basic references	1	Tidd J., Bessant J., Managing Innovation: Integrating Technological, Market and Organizational Change, wyd. 7, Wiley, Hoboken 2020.
	2	López D., Oliver M., „Integrating innovation into business strategy: Perspectives from innovation managers”, Sustainability 2023, t. 15, nr 8, p. 6503.
	3	Pisano G. P., Creative Construction: The DNA of Sustained Innovation, PublicAffairs, New York 2019.
Supplementary references	1	World Economic Forum, Future of Innovation Report 2023, World Economic Forum, Cologny/Geneva 2023
	2	Kim W. C., Mauborgne R., Blue Ocean Strategy: How to Create Uncontested Market Space and Make the Competition Irrelevant, wyd. rozszerzone, Harvard Business Review Press, Boston 2015.
	3	Dyer J., Gregersen H., Christensen C. M., The Innovator's DNA: Mastering the Five Skills of Disruptive Innovators, wyd. zaktualizowane, Harvard Business Press, Boston 2019.
	4	Global Innovation Index 2025, World Intellectual Property Organization (WIPO), Geneva 2025.
Course coordinator	dr Urszula Kobylińska	Date: 4/30/2026

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management				
Field of study		Management						Level and form of study		full-time second degree studies				
A group of modules /specialty		Innovation & Business Management						Education profile		general academic				
Course name		Mergers & Acquisitions						Course code		Z2Eza2s.012				
								Course type		elective				
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester		2			
		15				30			ECTS credits		3			
The programme is valid from 2026/2027														
Introductory courses														
Course objectives		Provide a comprehensive understanding of how companies identify, value, and execute corporate restructuring, focusing on strategic motives, valuation techniques, and legal frameworks. Students learn to evaluate deal success, analyze synergies, and manage post-closing integration to enhance company value.												
Framework programme content		Identify the core reasons for M&A, such as economies of scale, market share growth, diversification, or removing competitors. Types of takeovers: friendly and hostile.Teaching different roles of buyers, sellers and advisors in a transaction. Market value companies using different metods: discount cash flow (DCF) and multiple analysis. Estimate and analyze the potential synergies arising of transaction. Evaluate different payment methods like stock, cash or mixed. Based analyze legal issues. Negotiation tactics. Set of transaction documents. Post-merger integration and analysis. Case study analysis used financial modeling.												
Other information about the course		the course is related to the scientific activity conducted at the University												
		Student workload related to:							Total number of hours		including contact		including practical	
		participation in lectures							15		15			
		participation in other forms of activities							30		30		30	
Calculation:		preparation for passing a lecture							5					
		preparation for classes							7				7	
		completion of a project							15				15	
		preparation of a presentation							3				3	
		Total number of hours:							75		45		55	
		Total number of ECTS credits:							3		1.8		2.2	
									Knowledge		Skills		Social competence	
Expected discipline learning outcomes		ZARZII_W01; ZARZII_W02; ZARZII_W05; ZARZII_W07							ZARZII_U01; ZARZII_U02; ZARZII_U04; ZARZII_U09		ZARZII_K01; ZARZII_K04; ZARZII_K05			
Objectives and framework content prepared by		dr Andrzej Pawluczuk							Date:		6.05.2026			
Implementation in the academic year										2026/2027				
		Lecture												
		1 Introduction to the topic M&A.												
		2 Motives for M&A, like economies scale, market share growth, diversification and removing competitors.												
		3 Strategies of M&A, friendly or hostile takeovers.												
		4 Identification the role of transaction: buyers, sellers and advisors.												
		5 Evaluate target companies using discounted cash flow (DCF) and multiple analysis. (Part 1)												
		6 Evaluate target companies using discounted cash flow (DCF) and multiple analysis. (Part 2)												
		7 Estimate and analyze the potential synergies arising from combined entities.												
		8 Evaluate different payment methods and financing options.												
		9 Regulatory & legal framework.												
		10 Negotiation tactics.												
		11 Transaction documents.												
		12 Strategies for post-closing integration to merge cultures and operations efficiently.												
		13 Reasons for success or failure in M&A deals												
		14 Pitch proposals for acquisition.												
		15 Written assessment of lectures.												
Programme content		Specialist workshop												
		1 Organization of project work: introduction to the case study methodology, division into teams and establishing rules of communication within the group.												
		2 Case studes of M&A (Part 1)												
		3 Case studes of M&A (Part 2)												
		4 Transaction role-playing - group simulation.												
		5 Case study using DCF - project												
		6 Case study using multiple analysis - project												

	7	Estimate and analyze the potential synergies arising from combined entities - project.
	8	Evaluate different payment methods and financing options - project.
	9	Regulatory & legal framework - project.
	10	Negotiation tactics - group simulation.
	11	Case study: strategies for post-closing integration to merge cultures and operations efficiently.
	12	Transaction documents - project.
	13	Case study: Reasons for success or failure in M&A deals
	14	Pitch proposals for acquisition.
	15	Presentation session: defense of team projects, moderated discussion and final evaluation of exercises.
Teaching methods (on-site classes)	L	lecture with multimedia presentation; problem-based lecture;
	C	case studies, M&A project preparation, presentation
Teaching methods (online classes)	L	lecture with multimedia presentation; problem-based lecture;
	L	written exam with closed and open-ended questions + additional extra points for attendance at the lecture
Forms of crediting	C	preparing a case study and M&A project documentation, along with its presentation and answering questions during a moderated discussion

L	Written examination. Points awarded as follows:
	91% - 100% points 5.0 (the intended learning outcomes were achieved, with any individual inconsistencies that are not relevant to the achievement of individual outcomes)
	81% - 90% points 4.5 (the intended learning outcomes were achieved with few errors)
	71% - 80% points 4.0 (the intended learning outcomes were achieved with a number of errors and/or individual omissions)
	61% - 70% points 3.5 (the intended learning outcomes were achieved with significant errors and/or omissions)
	51% - 60% points 3.0 (the intended learning outcomes were achieved with major errors or omissions (minimum required level, acceptable to the academic teacher)
	50% or less points 2.0 (the intended learning outcomes were not achieved)

Conditions of crediting

C	The final grade for the exercises will consist of an assessment of the case studies and the business project completed by the team, followed by its presentation to the group, along with a defense (answering questions). Grading will be based on the following formula: 91% - 100% points 5.0 (the intended learning outcomes were achieved, with any individual inconsistencies that are not relevant to the achievement of the individual outcomes)
	81% - 90% points 4.5 (the intended learning outcomes were achieved with few errors)
	71% - 80% points 4.0 (the intended learning outcomes were achieved with a number of errors and/or individual omissions)
	61% - 70% points 3.5 (the intended learning outcomes were achieved with significant errors and/or omissions)
	51% - 60% points 3.0 (the intended learning outcomes were achieved with significant errors or omissions (the minimum required level, accepted by the academic teacher)
	50% or less points 2.0 (the intended learning outcomes were not achieved)

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	at an advanced level the essence of M&A projects, methods, models of their implementation and tools facilitating its implementation	ZARZII_W01, ZARZII_W05		
E2	in-depth knowledge of roles, documentation in the M&A process	ZARZII_W02; ZARZII_W07		
Skills: the student can				
E3	at a professional managerial level, prepare a comprehensive M&A project for a real business entity, using market information, e.g. available in EMIS, and solve problems in the M&A area		ZARZII_U01; ZARZII_U02; ZARZII_U04	
E4	advanced level of identifying opportunities for new transactions, knows and uses roles in the M&A process, applies various negotiation techniques and communicates in a group		ZARZII_U09	
Social competence: the student is ready to				
E5	active and constructive participation in teamwork, presenting and arguing one's own knowledge, listening to team members, understanding the roles of team members preparing the project for presentation and its defense in the group forum			ZARZII_K01; ZARZII_K04; ZARZII_K05
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	written test with closed and open-ended questions		L	
E2	written test with closed and open-ended questions		L	
E3	case studies, M&A project preparation, presentation		SW	
E4	case studies, M&A project preparation, presentation		SW	
E5	case studies, M&A project preparation, presentation		SW	
1	Lajoux A. R., The Art of M&A, Sixth Edition: A Merger, Acquisition, and Buyout Guide, McGraw Hill, 2024.			

Basic references	2	Giroux D. R., Capital Allocation: Principles, Strategies, and Processes for Creating Long-Term Shareholder Value, 2022.
	3	Koller T., Goedhart M., Priestley E., Wessels D., Valuation: Measuring and Managing the Value of Companies, University Edition, John Wiley & Sons Inc., 2025.
	4	McKinsey&Company, 2026 M&A Trends. Navigating a rapidly rebounding market, February 2026, [Electronic Document] Access: https://www.mckinsey.com/~media/mckinsey/business%20functions/m%20and%20a/our%20insights/top%20m%20and%20a%20trends%202026/2026-m-and-a-trends-navigating-a-rapidly-rebounding-market.pdf
	5	Sherman A., Mergers and Acquisitions from A to Z, HarperCollins Leadership, 2023.
	1	Schoenmaker D., Schramade W., Corporate Finance for Long-Term Value, Springer, 2023. [Electronic Document] Access: https://link.springer-com.bazy.pb.edu.pl/chapter/10.1007/978-3-031-35009-2_18?fromPaywallRec=true
Supplementary references	2	Elgendy H. Y., Akbar S., Khalil M., Target-Firm Conservative Accounting and the Takeover Premium, Review of Quantitative Finance and Accounting, 2026. [Electronic Document] Access: https://link.springer.com/article/10.1007/s11156-026-01505-w#citeas
	3	Laus V., Battisti E., Ribeiro-Navarrete S., Merging Innovation and Responsibility: The Role of Digital M&A in Shaping ESG Performance, International Entrepreneurship and Management Journal, Vol. 22, No. 58, 2026. [Electronic Document] Access: https://link.springer.com/article/10.1007/s11365-026-01173-1#citeas
Course coordinator	<i>dr Andrzej Pawluczuk</i>	
	Date:	<i>5/6/2026</i>

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management									
Field of study		Management							Level and form of study		full-time second degree studies								
A group of modules /specialty		common courses							Education profile		general academic								
Course name		Value stream management in an organization							E		Course code		Z2Eza3s.001						
											Course type		mandatory						
Course form(s) and number of hours		L		C		LC		P		SW		FW		S		Semester		3	
		15		45												ECTS credits		5	
The programme is valid from										2026/2027									
Introductory courses										Z2za2s.005									
Course objectives		Developing students' skills in mapping and improving value flow in an enterprise, with particular emphasis on identifying and eliminating bottlenecks as the primary lever for flow improvement.																	
Framework programme content		Topics related to identifying, analysing and improving value flow in organisations, with particular emphasis on eliminating non-value-adding activities from the customer's perspective. Students are introduced to selected management concepts focused on continuous process improvement and the identification and removal of system constraints as a key lever for efficiency gains. The course also covers methods for measuring the effects of improvement activities and the potential of modern technologies in process monitoring.																	
Other information about the course		the course is related to the scientific activity conducted at the University																	
		Student workload related to:										Total number of hours		including contact		including practical			
		participation in lectures										15		15					
		participation in other forms of activities										45		45		45			
Calculation:		participation in exams organized outside the scheduled classes										2		2					
		preparation for the exam										12							
		preparation for the completion of classes										36				36			
		preparation of a presentation										3				3			
		preparation for the credit										12				12			
		Total number of hours:										125		62		96			
		Total number of ECTS credits:										5		2.5		3.8			
												Knowledge		Skills		Social competence			
Expected discipline learning outcomes												ZARZII_W01; ZARZII_W02; ZARZII_W06; ZARZII_W07		ZARZII_U01; ZARZII_U02; ZARZII_U03; ZARZII_U04; ZARZII_U06		ZARZII_K03			
Objectives and framework content prepared by		Patrycja Rogowska, PhD										Date: 30.04.2026							
Implementation in the academic year		2027/2028																	
		Lecture																	
		1 Overview of the course objectives, scope, examination requirements and assessment of intended learning outcomes. Process, value stream and continuous improvement.																	
		2 Process boundaries, process customer and types of activities.																	
		3 Lean Management — principles and waste. Value Stream Mapping.																	
		4 Lean in services — designing the future state of flow.																	
		5 Theory of Constraints in a service organisation — fundamentals and the 5 focusing steps.																	
		6 TOC measures: Throughput, Inventory, Operating Expense.																	
		7 Drum-Buffer-Rope — flow management in services.																	
		8 TOC in practice — implementations in hospitals, banks and public administration.																	
		9 Conflict cloud — resolving managerial dilemmas.																	
		10 Methods for improving the bottleneck in services.																	
		11 Thinking Processes — current reality tree and future reality tree.																	
		12 Measuring improvement effects — KPIs, dashboards, progress monitoring.																	
		13 Lean and TOC — synergies and differences in a service organisation.																	
		14 Augmented reality (AR/HoloLens) in value stream management.																	
		15 Summary — continuous improvement as a managerial attitude.																	
Programme content		Classes																	
		1 Overview of the classes objectives, scope, credit requirements and assessment of intended learning outcomes. Introduction to the case study — customer, value, sketch of a service process.																	
		2 Process flowchart with VA/NVA activity classification.																	
		3 Waste identification. Translating the flowchart into a VSM map.																	
		4 Building the future state map.																	

	5	Identifying the constraint in a service process.
	6	Throughput calculations — simulation of constraint release.
	7	Designing DBR for a service process.
	8	Case study analysis of a TOC implementation in services.
	9	Building the conflict cloud.
	10	Selecting methods for bottleneck improvement.
	11	Building the current reality tree (CRT).
	12	Measuring improvement effects — KPIs and progress monitoring in the project.
	13	Synthesis — Lean and TOC recommendations for the case study. Finalisation of the group project.
	14	HoloLens Demo — augmented reality in bottleneck detection.
	15	Group project presentations. Written test.
Teaching methods (on-site classes)	L	lecture; problem-based lecture; lecture with multimedia presentation
	C	case study (creative problem solving); multimedia presentations
Teaching methods (online classes)	L	lecture; problem-based lecture; lecture with multimedia presentation, using MS Teams
	-	-
Forms of crediting	L	written examination with open and closed questions
	C	written test, assessment of teamwork outcomes (case study, presentation)

		Written examination in the form of a test and open questions. For each test question the student may receive 1 point, for an open question 2–4 points. The grade is awarded according to the following scheme: 51–60% of total points — 3.0;
L		61–70% — 3.5; 71–80% — 4.0; 81–90% — 4.5; 91–100% — 5.0.
Conditions of crediting		
		The credit for classes is based on a team project (15 pts.), its presentation (5 pts.) and a written test (15 pts.). The project and written test are graded according to the following scheme: 51–60% — 3.0; 61–70% — 3.5; 71–80% — 4.0; 81–90% — 4.5; 91–100% — 5.0. The final grade is the arithmetic mean of three components: (1) project completion, (2) project results presentation, (3) written test.
C		

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	the principles and methods of value flow management in a service organisation	ZARZII_W01; ZARZII_W02		
E2	the tools for identifying and eliminating constraints in service processes	ZARZII_W06; ZARZII_W07		
Skills: the student can				
E3	map and diagnose the value stream in a service organisation, identifying value-adding activities and waste under specific internal and external conditions of the enterprise		ZARZII_U01; ZARZII_U02; ZARZII_U06	
E4	identify the constraint of a service system and design a flow control mechanism		ZARZII_U01; ZARZII_U02	
E5	select and apply Lean Management and Theory of Constraints tools to solve a specific process problem and assess improvement effects using value flow measures		ZARZII_U03; ZARZII_U04	
Social competence: the student is ready to				
E6	collaborate within a team on a value flow improvement project, taking into account the perspectives of various service process stakeholders and accepting responsibility for jointly developed recommendations			ZARZII_K03

Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	written examination	L
E2	written examination	L
E3	written test, problem-solving tasks (case study), multimedia presentation	C
E4	written test, problem-solving tasks (case study), multimedia presentation	C
E5	written test, problem-solving tasks (case study), multimedia presentation	C
E6	written test, problem-solving tasks (case study), multimedia presentation	C

1	Takeuchi N., Takchito K., The Toyota Production System Journey: The Continuously Changing Features of TPS and Lean Thinking, Routledge/Taylor & Francis Group, New York 2023.
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Basic references

basic references	2	Nagarkatte U., Nancy O., Theory of Constraints: Creative Problem Solving, CRC Press: Taylor & Francis, Boca Raton 2018.
	1	Rogowska P., Process cycle time as a base of constraint identification in TOC application to a printing production system, Zeszyty Naukowe Politechniki Śląskiej, Organizacja i Zarządzanie, 2023, article 177. Open access: https://managementpapers.polsl.pl/wp-content/uploads/2023/09/ZN177.pdf
Supplementary references	2	Urban W., Rogowska P., Methodology for bottleneck identification in a production system when implementing TOC, Engineering Management in Production and Services, 2020, 12, article 2. Open access: https://reference-global.com/article/10.2478/emj-2020-0012
Course coordinator	Date:	

BIALYSTOK UNIVERSITY OF TECHNOLOGY								Faculty of Engineering Management	
Field of study	Management							Level and form of study	full-time second degree studies
A group of modules /specialty	common courses							Education profile	general academic
Course name	International trade and business internationalization							Course code	Z2Eza3s.002
								Course type	mandatory
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Semester	3
	30	30						ECTS credits	4
The programme is valid from								2026/2027	
Introductory courses									

Course objectives	The aim of the course is to deepen students' knowledge of the processes of enterprise internationalisation, contemporary strategies of expansion into foreign markets, and the mechanisms underlying the development of international trade in goods and services. The course enables students to learn about the reasons for the development of international exchange, the basic theories of international trade, as well as the specific features of inter-industry and intra-industry trade. An important objective is also to develop the ability to analyse the position of countries in world trade, with particular emphasis on the largest exporters and importers of goods and services and the factors shaping contemporary trade flows. The course develops the ability to analyse economic, cultural, technological and organisational determinants of international business activity and to design enterprise internationalisation strategies. An important objective is also to introduce students to the processes of trade regionalism, the functioning of free trade areas, and the trade effects of regional integration, including the trade creation effect and the trade diversion effect and their consequences for economies and enterprises. A further important objective is to develop competences in preparing marketing and promotion strategies for foreign markets and in using digital tools, e-commerce and digitalisation in international expansion processes. The course fosters strategic and entrepreneurial thinking in the conditions of the global economy.
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Framework programme content	The course concerns the processes of enterprise internationalisation, contemporary theories, models and strategies of expansion into foreign markets, and the mechanisms underlying the development of international trade in goods and services. It discusses the determinants of the internationalisation of business activity, forms of entry into foreign markets, marketing and promotion strategies, and the importance of intercultural communication in international business. As part of the course, students learn about the reasons for the development of international exchange, basic theories of international trade, the specific features of inter-industry and intra-industry trade, and the structure of contemporary world trade, with particular emphasis on the largest exporters and importers of goods and services. An important element of the course is the issue of trade regionalism, the functioning of free trade areas, and the trade effects of regional integration, including the trade creation effect and the trade diversion effect and their consequences for economies and enterprises. The course also discusses internationalisation in the digital era. As part of the classes, students prepare an export development plan for a selected enterprise, including market analysis, selection of an entry strategy, and marketing and organisational activities related to the internationalisation of business activity.
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Other information about the course	---
	the course is related to the scientific activity conducted at the University

Calculation:	Student workload related to:	Total number of hours	including contact	including practical
	participation in lectures	30	30	
	participation in other forms of activities	30	30	30
	preparation for passing the lecture	5		
	preparation for current classes	24		24
	completion of the project	5		5
	preparation of the presentation	6		6
	Total number of hours:	100	60	65
	Total number of ECTS credits:	4.0	2.4	2.6

Expected discipline learning outcomes	Knowledge	Skills	Social competence
	ZARZII_W01; ZARZII_W03; ZARZII_W06; ZARZII_W07; ZARZII_W09	ZARZII_U01; ZARZII_U02; ZARZII_U03; ZARZII_U04; ZARZII_U05	ZARZII_K04; ZARZII_K05

Objectives and framework content prepared by	dr hab. Katarzyna Czerewacz-Filipowicz, prof. PB dr Justyna Grześ-Buklaho	Date: 05.05.2026
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Implementation in the academic year	2027/2028
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Lecture	
1	International trade in goods and services. Data sources.
2	Reasons for and theories of the development of international trade (including the reasons for the development of trade in the light of classical and demand-and-supply theories).
3	Reasons for and theories of the development of international trade (including the reasons for the development of trade in the light of neotechnological theories and new trade theories, e.g. Krugman's new trade theory).
4	Inter-industry trade and intra-industry trade.
5	Trade policy instruments of the state
6	Contemporary trade regionalism.

E1	in-depth knowledge of the mechanisms of development of international trade in goods and services, classical and contemporary theories of international trade, the specificity of inter-industry and intra-industry trade, and processes of trade regionalism and their consequences for economies and enterprises	ZARZII_W01; ZARZII_W06; ZARZII_W07
E2	in-depth knowledge of contemporary theories, models and strategies of enterprise internationalisation and the complex economic, cultural, technological, organisational and legal determinants of foreign expansion of enterprises operating in an international environment	ZARZII_W03; ZARZII_W07; ZARZII_W09
Skills: the student can		
E3	analyse and interpret data and information on international trade in goods and services, including identifying the largest exporters and importers, assessing the structure and directions of trade flows, and explaining the consequences of trade regionalism, the trade creation effect and the trade diversion effect for economies, enterprises and consumers	ZARZII_U02; ZARZII_U03; ZARZII_U04
E4	analyse and interpret complex determinants of enterprise internationalisation and evaluate foreign expansion strategies using advanced methods of strategic analysis and information from various sources	ZARZII_U01; ZARZII_U03; ZARZII_U04
E5	develop a project of an internationalisation strategy and an export development plan for an enterprise, taking into account the specificity of the foreign market, organisational determinants and the use of digital tools supporting international business activity	ZARZII_U01; ZARZII_U04; ZARZII_U05
Social competence: the student is ready to		
E6	<i>strategic and entrepreneurial thinking in the development of enterprise activity in international markets and responsible decision-making in a changing and multicultural business environment</i>	ZARZII_K04; ZARZII_K05
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	<i>written credit assessment</i>	L
E2	<i>written credit assessment</i>	L
E3	<i>practical project; case study; discussion</i>	C
E4	<i>practical project; presentation</i>	C
E5	<i>practical project</i>	C
E6	<i>practical project</i>	C
Basic references	1 Krugman P., Melitz M., Obstfeld M., International Economics: Theory and Policy, 12th ed., Harlow: Pearson Education, 2022.	
	2 Feenstra, R. C., Taylor, A. M., International Trade, 5th ed., New York: Worth Publishers, Macmillan Learning, 2021.	
	3 Gilbert R.J., Innovation Matters: Competition Policy for the High-Technology Economy, MIT Press, Cambridge–London 2020.	
	4 Krueger, A. O., International Trade: What Everyone Needs to Know. Oxford University Press, Oxford 2020.	
Supplementary references	1 Hoekman, B. M., Zedillo, E. (eds.), Trade in the 21st Century: Back to the Past? Brookings Institution Press, 2021.	
	2 Wang, Z. J., Chen, J., International Trade Regulation: Evolving Dynamics and Shifting Foundations. Routledge 2023.	
	3 Collinson, S., Narula, R., Qamar, A., & Rugman, A. M., International Business (9th ed.). Harlow, United Kingdom: Pearson, 2024.	
Course coordinator	<i>dr hab. Katarzyna Czerewacz-Filipowicz, prof. PB</i> <i>dr Justyna Grześ-Bukłaho</i>	Date: 5/5/2026

BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Management Engineering													
Field of study				Management						Level and form of study				full-time second degree studies									
A group of modules /specialty				common courses						Education profile				general academic									
Course name				Digital methods and tools for future anticipation						Course code				Z2Eza3s.003									
										Course type				mandatory									
Course form(s) and number of hours				L		C		LC		P		SW		FW		S		Semester				3	
				15								30						ECTS credits				3	
The programme is valid from										2026/2027													
Introductory courses										Z2Eza1s.004													
Course objectives				The aim of the course is to prepare students for advanced future anticipation using digital tools. Students will acquire advanced skills in using digital methods and tools that support anticipatory management and will learn how to apply them in practice. Students will gain advanced knowledge of modern approaches to anticipatory future management, particularly foresight. They will develop practical skills in applying this knowledge in strategic management practice. Students will become familiar with the role of digital tools in anticipating the future. The course will provide knowledge of digital support for methods such as the identification of weak signals using VOSviewer software, support for STEEPVL analysis, scenario methods, and roadmapping with the use of Foresight IT tools. Students will prepare mini-projects based on selected foresight methodologies in chosen areas of economic activity, using digital tools.																			
Framework programme content				Introduction to methods of future anticipation. The importance of digital tools in anticipating the future. Basic methods and tools for analysing the business environment. The role of VOSviewer software in identifying weak signals. The IT tool developed within the framework of the FORHESIT project. The application of the FORHESIT IT tool to support STEEPVL analysis, scenario methods, and roadmapping. The use of MICMAC software to support structural analysis. The Futures Wheel tool for identifying the direct and indirect effects of unprecedented events.																			
Other information about the course				the course is related to the scientific activity conducted at the University																			
				Student workload related to:										Total number of hours		including contact		including practical					
Calculation:				participation in lectures										15		15							
				participation in other forms of activities										30		30		30					
				preparation for passing a lecture										8									
				preparation for the completion of classes										6				6					
				preparation for classes										8				8					
				completion of a project										8				8					
				Total number of hours:										75		45		52					
				Total number of ECTS credits:										3		1.8		2.1					
														Knowledge		Skills		Social competence					
Expected discipline learning outcomes														ZARZII_W01; ZARZII_W02; ZARZII_W03; ZARZII_W05		ZARZII_U01; ZARZII_U04; ZARZII_U05; ZARZII_U06		ZARZII_K01; ZARZII_K04					
Objectives and framework content prepared by				Anna Kononiuk, PhD										Date: 04.05.2026									
Implementation in the academic year				2027/2028																			
				Lecture																			
1				Introduction of students to the information contained in the course syllabus and the requirements for completing the lecture.																			
2				The essence of future anticipation.																			
3				Methods of future anticipation, part 1.																			
4				Methods of future anticipation, part 2.																			
5				The information ageing cycle.																			
6				Possibilities of using VOSviewer software to identify weak signals, part 1.																			
7				Digital analytical tools developed within the FORHESIT project.																			
8				Possibilities of using VOSviewer software to identify weak signals.																			
9				Application of the FORHESIT IT tool to support STEEPVL analysis.																			
10				Application of the FORHESIT IT tool to support the scenario method.																			
11				Application of the FORHESIT IT tool to support roadmapping.																			
12				Application of MICMAC software to support structural analysis, part 1.																			
13				Application of MICMAC software to support structural analysis, part 2.																			
14				Futures Wheel.																			
15				Summary and preparation for completing the lecture.																			
Programme content				Specialist workshop																			
1				Introduction of students to the information contained in the course syllabus and the requirements for completing the specialized workshop.																			
2				Identification of research areas using future anticipation methods, part 1.																			
3				Identification of research areas using future anticipation methods, part 2.																			

	4	Identification of weak signals in research areas using VOSviewer software, part 1.
	5	Identification of weak signals in research areas using VOSviewer software, part 2.
	6	Application of the FORHESIT IT tool to support STEEPVL analysis, part 1.
	7	Application of the FORHESIT IT tool to support STEEPVL analysis, part 2.
	8	Application of the FORHESIT IT tool to support the scenario method, part 1.
	9	Application of the FORHESIT IT tool to support the scenario method, part 2.
	10	Application of the FORHESIT IT tool to support roadmapping.
	11	Application of MICMAC software to support structural analysis, part 1.
	12	Application of MICMAC software to support structural analysis, part 2.
	13	Application of MICMAC software to support structural analysis, part 3.
	14	Identification of the direct and indirect effects of wild cards using the digital Futures Wheel tool.
	15	Summary of projects and completion of the practical classes.
Teaching methods (on-site classes)	L	problem-based lecture; lecture with a multimedia presentation
Teaching methods (online classes)	SW	Course-specific practical classes; project-based method
Forms of crediting	L	Written test
	SW	Written test; project assignments
Conditions of crediting	L	The grade is based on the points obtained by the student. Assessment criteria: 91–100% very good (5.0); 81–90% good plus (4.5); 71–80% good (4.0); 61–70% satisfactory plus (3.5); 51–60% satisfactory (3.0); below 51% unsatisfactory (2.0).
	SW	The grade is based on the points obtained by the student. Assessment criteria: 91–100% very good (5.0); 81–90% good plus (4.5); 71–80% good (4.0); 61–70% satisfactory plus (3.5); 51–60% satisfactory (3.0); below 51% unsatisfactory (2.0).

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	has advanced knowledge of methods and tools of strategic management and anticipatory management (foresight), and understands how to use them to solve major organisational dilemmas	ZARZII_W01; ZARZII_W03		
E2	through knowledge of methods for analysing the general environment, including the analysis of trends and megatrends, knows and understands the advanced theoretical foundations of managerial activity	ZARZII_W02; ZARZII_W05		
Skills: the student can				
E3	formulate hypotheses and conduct advanced anticipatory analysis supported by digital tools, taking into account contemporary challenges related to atypical management problems		ZARZII_U01; ZARZII_U06	
E4	select and apply professional advanced methods and tools of foresight research that support strategic management		ZARZII_U04; ZARZII_U05	
Social competence: the student is ready to				
E5	an in-depth critical assessment of one's knowledge in the field of content related to future anticipation.			ZARZII_K01
E6	initiate and develop innovative ventures and entrepreneurial activities based on the identification and effective use of the developmental potential of a selected research area			ZARZII_K04

Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	written test	L
E2	written test	L
E3	project preparation; written test	SW
E4	project preparation; written test	SW
E5	written test assessment; project preparation; written test	SW
E6	project preparation; written test	SW

Basic references	1	Gulc A., Siderska J., Szpilko D., Szydło J., Religa J. Valevatn J., <i>Possibilities of applying foresight research methods in the context of the future labor market</i> , Edukacja ustawiczna dorosłych: kwartalnik naukowo-metodyczny, 2023-03, Vol.120 (1), pp.175-187.
	2	Healey, Mark P., and Gerard P. Hodgkinson, <i>Overcoming Strategic Persistence: Effects of Multiple Scenario Analysis on Strategic Reorientation</i> , Strategic management journal 2024, pp. 1423–1445, https://primo-48pbk.hosted.exlibrisgroup.com/permalink/f/1e4b76u/TN_cdi_proquest_journals_3076829311
	3	Nielsen, Anja Fleten et al., <i>Using the Future Wheel Methodology to Assess the Impact of Open Science in the Transport Sector</i> , Scientific reports 13.1 2023, pp. 6000–15., https://primo-48pbk.hosted.exlibrisgroup.com/permalink/f/1e4b76u/TN_cdi_springer_journals_10_1038_s41598_023_33102_5
	4	Bartosiewicz Aleksandra, Sztelik Paulina, <i>The STEEPVL and Scenario Analyses of the Development of the Belt and Road Initiative in Poland</i> . Innovation (Abingdon, England) 37.4 2024, pp. 1148–1173.

	5	Oliveira, Maicon G. et al., <i>Roadmapping Features: A Customer-Based Perspective</i> , IEEE Transactions on Engineering Management 2024,71, pp. 6741–6752.
Supplementary references	1	Mercuri Chapuis, Sylvaine, and Thomas Gauthier, <i>Futures Wheel Partnership Building: Lessons from Airbnb in Switzerland</i> , Revue management & avenir No 133.1 (2023), pp. 57–80, https://primo-48pbk.hosted.exlibrisgroup.com/permalink/ff/1e4b76u/TN_cdi_cairn_journals_E_MAV_133_0057
	2	Szathmári, Attila, Alexandra Köves, and Judit Gáspár, <i>Human-Centred Decision Support for the Common Good: A Combination of Participatory Foresight Methods</i> . Journal of decision systems 2024-12, Vol.33, https://primo-48pbk.hosted.exlibrisgroup.com/permalink/ff/1e4b76u/TN_cdi_proquest_journals_3171098604
	3	Sulich, Adam, Tomasz Zema, and Lumir Kulhanek, <i>Towards a Secure Future: A Bibliometric Analysis of the Relations Between Cybersecurity and Sustainable Development</i> . "Procedia computer science" 2023, 225 pp. 1448–1457, https://primo-48pbk.hosted.exlibrisgroup.com/permalink/ff/1e4b76u/TN_cdi_elsevier_sciencedirect_doi_10_1016_j_proc_s_2023_10_133
Course coordinator	Anna Kononiuk, PhD	
	Date:	5/4/2026

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management			
Field of study	Management								E	Level and form of study	full-time second degree studies		
A group of modules /specialty	common courses									Education profile	general academic		
Course name	Marketing management								S	Course code	Z2Eza3s.004		
										Course type	mandatory		
Course form(s) and number of hours	L	C	LC	P	SW	FW		Semester	3				
	15	15						ECTS credits	3				
The programme is valid from										2026/2027			
Introductory courses										Z2Eza1s.005, Z2Eza1s.004			

Course objectives	Acquiring knowledge and the ability to apply it with regard to: (i) the nature and scope of marketing management and strategies within various marketing and business management concepts, (ii) the functions and processes of marketing management and marketing strategies, including the characteristics of the components of this process, (iii) the significance and impact of marketing management and strategies from the perspective of business practice.
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Framework programme content	The enterprise as a market entity. The essence and characteristics of various marketing and marketing management concepts in relation to different organizations and business contexts. Traditional and process-based management, as well as digital technologies in relation to marketing. Management of marketing functions. Marketing strategy and marketing planning at various management levels and in different areas of marketing. One-page strategic plan with an emphasis on marketing. Marketing mix management—marketing instruments and tools. Relationship marketing management. Loyalty programs. Customer relationships in the virtual world. Marketing communication. Communication tools, direct marketing, social media, and other modern forms of marketing in the web and Internet environment. Marketing control. Distribution metrics. Break-even analysis. Market participants and the relationships between them. Segmentation, targeting, and positioning. Customer relationships in the virtual and offline worlds. Project-based assignments on various marketing tools and instruments, with a focus on marketing in the web and online environments. Marketing metrics and marketing control. Ethical issues and marketing, using the example of a non-profit organization operating in the business sector.
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Other information about the course	the course is related to the scientific activity conducted at the University
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Calculation:	Student workload related to:	Total number of hours	including contact	including practical
	participation in lectures	15	15	
	participation in other forms of activities	15	15	15
	participation in exams organized outside the scheduled classes	1	1	
	preparation for the exam	14		
	preparation for the completion of classes	10		10
	completion of a project	20		20
	Total number of hours:	75	31	45
Total number of ECTS credits:		3	1.2	1.8

Expected discipline learning outcomes	Knowledge	Skills	Social competence
	ZARZII_W03; ZARZII_W04; ZARZII_W05	ZARZII_U01; ZARZII_U02; ZARZII_U04; ZARZII_U07	ZARZII_K01; ZARZII_K05

Objectives and framework content prepared by	Assoc. Prof. Dariusz Siemieniako	Date: 05.05.2026
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Implementation in the academic year	2027/2028
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Lecture	
1	The enterprise as a market actor, market participants, and their interrelationships.
2	The nature and characteristics of different marketing concepts in relation to different organizations and business contexts.
3	The nature and characteristics of different marketing management concepts in relation to different organizations and business contexts.
4	Traditional and process-based management in relation to marketing.
5	Digital technologies in relation to marketing.
6	Management of marketing services/departments.
7	Marketing strategy and marketing planning at different levels of management.
8	Marketing strategy and marketing planning in different areas of marketing.
9	Marketing mix management: marketing instruments and tools.
10	Relationship marketing management. Loyalty programs.
11	Marketing communication. Customer relationships in the virtual world.
12	Communication tools and direct marketing tools in the Web and Internet environment.
13	Social media and other modern forms of Internet marketing.

Programme content	14	Marketing control.
	15	Distribution metrics. Break-even point analysis.
Classes		
	1	Discussion of course completion and assessment requirements. Marketing management: introductory issues.
	2	Market participants and relationships between them, based on the example of a selected industry.
	3	Segmentation, targeting and positioning: analysis and group work; task related to the group project.
	4	Segmentation, targeting and positioning: presentation and discussion; task related to the group project.
	5	Customer relationships in the virtual world: task related to the group project.
	6	Use of audio advertising: task related to the group project.
	7	Use of advergames and advertising in computer games: task related to the group project.
	8	Use of word-of-mouth marketing: task related to the group project.
	9	Use of social media: task related to the group project.
	10	Use of influencer marketing: task related to the group project.
	11	Use of content marketing and storytelling: task related to the group project.
	12	Marketing metrics and marketing control: task related to the group project.
	13	Ethical Voice: case study.
	14	Group project presentations and discussion.
	15	Group project presentations and discussion.
Teaching methods (on-site classes)	L	Informational lecture, lecture with multimedia presentation.
	C	Subject-specific practical classes, flipped classroom, case study, project-based method, presentation of teamwork results.
Teaching methods (online classes)	L	Informational lecture and lecture with multimedia presentation delivered via the MS Teams platform.
Forms of crediting	L	written examination – multiple-choice test
	C	completion of subject-specific tasks and case studies, completion of a team project, project presentation
	L	The student is required to take the examination on the scheduled date. The final grade is based on the number of points obtained by the student. Assessment criteria: 5.0 — if the student obtains 100–91% of all points available in the test 4.5 — 90–81% 4.0 — 80–71% 3.5 — 70–61% 3.0 — 60–51% 2.0 — below 51%

Conditions of crediting		The student is required to attend classes and submit subject-specific and problem-based assignments for assessment by the specified deadline. Selected tasks completed during practical classes, as well as the completed project and its presentation, are awarded points. The final grade is based on the total number of points obtained. Assessment criteria:
	C	5.0 — if the student obtains 100–91% of all points available during practical classes 4.5 — 90–81% 4.0 — 80–71% 3.5 — 70–61% 3.0 — 60–51% 2.0 — below 51%

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	advanced concepts of marketing management and the functioning of enterprises in the market, including strategic and operational marketing planning and the management of marketing instruments	ZARZII_W04, ZARZII_W03		
E2	contemporary trends in marketing development, including digitalization, relationship marketing, communication in the online environment, and their impact on organizational management	ZARZII_W05, ZARZII_W04		
Skills: the student can				
E3	use knowledge to design and solve complex marketing problems, including the development of marketing strategies and action plans		ZARZII_U01, ZARZII_U04	
E4	apply modern marketing tools and methods, including digital technologies and analytical tools, under conditions of uncertainty and environmental volatility		ZARZII_U02, ZARZII_U04	
E5	communicate marketing solutions and engage in discussion with various stakeholders in the marketing management process		ZARZII_U07, ZARZII_U01	
Social competence: the student is ready to				

E6	responsible and ethical decision-making in the field of marketing, taking into account stakeholder needs and the dynamics of market changes.	ZARZII_K01, ZARZII_K05
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	<i>written examination – multiple-choice test</i>	L
E2	<i>written examination – multiple-choice test</i>	L
E3	<i>completion of subject-specific tasks; preparation of a project; project presentation</i>	C
E4	<i>completion of subject-specific tasks; preparation of a project; project presentation</i>	C
E5	<i>completion of subject-specific tasks; preparation of a project; project presentation</i>	C
E6	<i>completion of subject-specific tasks; preparation of a project; project presentation</i>	C
Basic references	1 Kotler P., Keller K.L.. Marketing Management, Pearson Education, Boston 2016.	
	2 Kingsnorth S., Digital Marketing Strategy an Integrated Approach to Online Marketing, Kogan Page, New York 2026.	
	3 Kreutzer R.T., Toolbox for Marketing and Management: Creative Concepts, Forecasting Methods, and Analytical Instruments, Springer Nature, Cham 2019.	
Supplementary references	1 Hanlon A., Digital Marketing: Strategy, Planning & Disruption, London 2025.	
	2 Fairley R., Sarah R., Rebrand Tight: How to Refresh Your Brand and Marketing to Grow Your Business, Practical Inspiration Publishing, 2025.	
	3 Krämer A. et al. Medical Device Management: A Comprehensive Guide to Markets, Marketing, and Regulations, Springer Nature, Cham 2026. Print.	
Course coordinator	<i>Assoc. Prof. Dariusz Siemieniako</i>	Date: 2026-05-06

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management			
Field of study		Management						Level and form of study		full-time second degree studies			
A group of modules /specialty		Innovation & Business Management						Education profile		general academic			
Course name		Innovation economics and policy						Course code		Z2Eza3s.011			
								Course type		elective			
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester		3		
		30	30						ECTS credits		4		
The programme is valid from										2026/2027			
Introductory courses													
Course objectives		The aim of the course is to develop advanced competences in understanding the role of innovation in economic growth and the functioning of modern economies, as well as the instruments of economic policy that support innovation processes. Students acquire the ability to analyse key macroeconomic mechanisms, including the determinants of national income, fiscal and monetary policy, and labour market dynamics, in the context of innovation-driven development. The course enables students to evaluate and critically assess public policies supporting innovation, taking into account contemporary challenges such as digitalisation, green transformation, and globalisation. It also develops skills in interpreting economic data, formulating evidence-based conclusions, and making strategic decisions in a dynamic and uncertain economic environment.											
Framework programme content		The course covers key macroeconomic foundations of innovation-driven growth and the role of public policy in shaping innovation processes. It includes analysis of national income determinants (GDP, GNP, disposable income), aggregate demand components, and the multiplier mechanism, with international comparisons of growth-oriented policies. It addresses fiscal policy (budget functions, revenues and expenditures, deficits, public debt) and monetary policy (money supply and demand, central banking, financial system) as instruments influencing investment and innovation. The programme also examines labour market policy in the context of the triple transition (digital, green, demographic), including labour supply and demand, unemployment, and the role of human capital in innovation systems.											
Other information about the course		content of the course refers to the principles of sustainable development the course is related to the scientific activity conducted at the University											
		Student workload related to:						Total number of hours		including contact		including practical	
Calculation:		participation in lectures						30		30			
		participation in other forms of activities						30		30		30	
		preparation for passing a lecture						15					
		completion of a project						15				15	
		preparation for ongoing practical classes						10				10	
		Total number of hours:						100		60		55	
		Total number of ECTS credits:						4		2.4		2.2	
Expected discipline learning outcomes								Knowledge		Skills		Social competence	
								ZARZII_W05; ZARZII_W06		ZARZII_U01; ZARZII_U03		ZARZII_K02	
Objectives and framework content prepared by		Ewa Rollnik-Sadowska, PhD						Date:		4/30/2026			
Implementation in the academic year										2027/2028			
		Lecture											
		1 Introduction to innovation economics and policy frameworks											
		2 Innovation as a driver of economic growth and productivity											
		3 Determinants of national income: GDP, GNP, and disposable income											
		4 Aggregate demand and the multiplier mechanism in innovation-led growth											
		5 Economic policy supporting growth – international comparisons											
		6 Fiscal policy and innovation: budget functions and public expenditure											
		7 Budget deficit, public debt, and sustainability in innovation policy											
		8 Monetary policy and its impact on investment and innovation											
		9 Central banks, financial systems, and innovation financing											
		10 The Eurozone: economic integration, opportunities and risks											
		11 Labour market dynamics in innovation-driven economies											
		12 Unemployment: types, causes, and policy responses											
		13 The triple transition: digital, green, and social challenges											
		14 Innovation policy instruments at national and EU levels											
Programme content		15 Written test											
		Classes											
		1 Mapping national innovation systems – selected country analysis											
		2 Case study: innovation-driven growth strategies											

	3	Comparative analysis of GDP structure in selected economies
	4	Simulation: multiplier effects in different economic scenarios
	5	Analyzing policies in selected countries
	6	Managing Public Budgets
	7	Fiscal policy case study: public spending on R&D and innovation
	8	Central bank policy analysis: impact on innovation investment
	9	Financial institutions and innovation funding – case analysis
	10	Labour market indicators analysis across countries
	11	Unemployment policy evaluation (youth, structural, cyclical)
	12	Triple transition strategies – country comparison project
	13	Innovation policy instruments – evaluation workshop
	14	Eurozone – Pros and Cons
	15	Young People on the Labour Market
Teaching methods (on-site classes)	L	informative lecture (with multimedia presentation), problem-based lecture
	C	project-based learning (individual and team projects), case study analysis, problem-solving tasks, discussions and debates, simulations
Teaching methods (online classes)	L	informative lecture (with multimedia presentation), problem-based lecture on Ms Teams
Forms of crediting	L	Written test
	C	Evaluation of projects, including both individual and group work
Conditions of crediting	L	A positive grade is determined by the number of points obtained from the written test (more than 50% of the maximum number of points). The grading scale is as follows: 51–60% – satisfactory (dst) 61–70% – satisfactory plus (dst plus) 71–80% – good (db) 81–90% – good plus (db plus) 91–100% – very good (bdb)
	C	The final grade is based on the number of points obtained from the completion of project tasks (individual and group). A condition for passing the course is achieving all intended learning outcomes. A positive grade is determined by obtaining more than 50% of the maximum number of points. The grading scale is as follows: 51–60% – satisfactory (dst) 61–70% – satisfactory plus (dst plus) 71–80% – good (db) 81–90% – good plus (db plus) 91–100% – very good (bdb)

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	fundamental economic, social and technological dilemmas related to innovation processes and contemporary economic transformations (digital, green, global)	ZARZII_W06		
E2	the main development trends in the discipline of management and quality sciences, particularly in the context of the economic, legal, and institutional determinants of economic policy	ZARZII_W05; ZARZII_W06		
Skills: the student can				
E3	perform tasks and analyse economic and policy phenomena under conditions of uncertainty, risk and dynamic changes, including innovation-driven environments		ZARZII_U02	
E4	critically analyse, synthesize and interpret data and information related to innovation, economic growth and public policy, and formulate evidence-based conclusions		ZARZII_U03	
Social competence: the student is ready to				
E5	recognise the importance of expert knowledge and use it in solving complex economic and policy problems, including those related to innovation and development			ZARZII_K02

Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	Written test	L
E2	Written test	L
E3	Individual project	C
E4	Group project	C
E5	Participation in discussions and presentations	C
1	Acemoglu D., Macroeconomics. Global Edition. Pearson 2021, Pearson Education, 2025.	
2	International Organization and Global Governance, Taylor & Francis Ltd., 2023.	

Basic references	3	Blanchard O., Macroeconomics, Global Edition, Pearson Education, 2020.
	4	The Economics Book: Big Ideas Simply Explained, Dorling Kindersley Ltd., 2024.
	5	Gómez-Barroso J. L., Public Economics: A Concise Introduction, Routledge, 2021.
Supplementary references	1	Eurostat database. https://ec.europa.eu/eurostat
	2	European Central Bank. https://www.ecb.europa.eu/mopo/html/index.en.html
	3	International Labour Organisation. https://www.ilo.org/
Course coordinator	Ewa Rollnik-Sadowska, PhD	
	Date:	4/30/2026

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY								Faculty of Management	
Field of study	Management							Level and form of study	full-time second degree studies
A group of modules /specialty	Innovation & Business Management							Education profile	general academic
Course name	Data analytics for managers							Course code	Z2Eza3s.012
								Course type	elective
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Semester	3
	15				30			ECTS credits	3
The programme is valid from								2026/2027	
Introductory courses									

Course objectives	Development of knowledge concerning data-driven managerial decision-making methods. Acquisition of knowledge regarding selected methods and techniques of descriptive, diagnostic, prospective, and prescriptive analytics to support strategic and operational decision-making in organizations. Acquisition of skills in obtaining, processing, analyzing, and interpreting business data, as well as creating reports and managerial dashboards. Development of the ability to use modern data analytics tools, visualization methods, and communication of analytical insights. Acquisition of the ability to critically evaluate analytical results, identify trends and relationships in data, and take into account ethical aspects, sustainability, and digital transformation in data-driven management processes.
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Framework programme content	The course covers issues related to data analytics in management processes and managerial decision-making. The topics discussed include sources and types of business data, methods of diagnostic, predictive, and prospective analytics, as well as Business Intelligence tools. Students become familiar with data visualization and communication tools for presenting analytical results, principles of responsible data management, and selected aspects of sustainability and ESG analytics.
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Other information about the course	content of the course refers to the principles of sustainable development
	the course is related to the scientific activity conducted at the University

	Student workload related to:	Total number of hours	including contact	including practical
Calculation:	participation in lectures	15	15	
	participation in other forms of activities	30	30	30
	preparation for ongoing practical classes	24		24
	preparation for passing a lecture	6		
	Total number of hours:	75	45	54
	Total number of ECTS credits:	3	1.8	2.2

	Knowledge	Skills	Social competence
Expected discipline learning outcomes	ZARZII_W01; ZARZII_W05; ZARZII_W03	ZARZII_U03; ZARZII_U04; ZARZII_U06; ZARZII_U07	ZARZII_K03

Objectives and framework content prepared by	Łukasz Nazarko, PhD	Date: 06.05.2026
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Implementation in the academic year	2027/2028
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	Lecture
1	Introduction to data analytics in management, the importance of data in organizations, and the concept of data-driven management
2	Sources, types, and quality of business data – structured and unstructured data, internal and external data sources, and data preparation for analysis
3	Diagnostic analytics – identifying the causes of business phenomena and problems
4	Predictive analytics – forecasting economic and business phenomena
5	Prospective (foresight) and prescriptive analytics – using data to support strategic planning and decision-making
6	Business decision support tools (Business Intelligence) – BI systems, reporting, managerial dashboards, and performance monitoring
7	Data visualization and communication of analytical results – principles of visualization design, data storytelling, and presentation of analytical findings
8	Artificial intelligence and machine learning in management – basic concepts, opportunities, and limitations of AI applications in business data analytics
9	Responsible data management – data security, cybersecurity, information protection, and digital risk management
10	Sustainability and ESG analytics – analysis of environmental, social, and governance indicators
11	Ethical and legal aspects of data analytics and artificial intelligence – data privacy, responsible AI use, and regulatory aspects
12	Case studies of data analytics applications in organizations – part 1
13	Case studies of data analytics applications in organizations – part 2
14	Trends in the development of data analytics – the future of business analytics, AI, automation of decision-making processes, and the development of managers' analytical competencies

	15	Written test
	Specialist workshop	
	1	Organization of work in an analytical environment and introduction to the IT tools used in the course
	2	Acquiring and preparing business data for analysis
	3	Descriptive analysis of business data using spreadsheets and analytical tools
	4	Identification of organizational relationships and problems based on diagnostic data analysis
	5	Creating basic forecasts and analyzing business trends
	6	Using Business Intelligence tools for reporting and monitoring organizational performance indicators
	7	Designing and creating managerial dashboards and interactive reports
	8	Visualization of business data and presentation of analytical results – part 1
	9	Visualization of business data and presentation of analytical results – part 2
	10	Application of selected artificial intelligence and machine learning tools in data analysis – part 1
	11	Application of selected artificial intelligence and machine learning tools in data analysis – part 2
	12	Analysis of data related to sustainability and ESG indicators
	13	Solving decision-making problems based on prepared datasets under the supervision of the instructor
	14	Solving decision-making problems based on prepared datasets under the supervision of the instructor
	15	Solving decision-making problems based on prepared datasets under the supervision of the instructor
Teaching methods (on-site classes)	L	lecture with multimedia presentation
	C	problem-based learning; case studies; analytical project
Teaching methods (online classes)	L	lecture with multimedia presentation
Forms of crediting	L	written test with open and closed questions
	SW	analytical project
Conditions of crediting	L	Number of points: 91–100% very good (5.0); 81–90% good plus (4.5); 71–80% good (4.0); 61–70% satisfactory plus (3.5); 50–60% satisfactory (3.0); below 50% unsatisfactory (2.0)
	SW	Obtaining more than 50% points in the following evaluation aspects: methodology, results presentation, managerial recommendations. Total number of points: 91–100% very good (5.0); 81–90% good plus (4.5); 71–80% good (4.0); 61–70% satisfactory plus (3.5); 50–60% satisfactory (3.0); below 50% unsatisfactory (2.0)

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	in-depth concepts, methods, and tools of data analytics used in supporting managerial decision-making and the functioning of data-driven organizations.	ZARZII_W01; ZARZII_W05		
E2	the importance of data analytics in building competitive advantage and supporting the sustainable development of organizations.	ZARZII_W03		
Skills: the student can				
E3	acquire, process, analyze, and interpret complex business data using selected analytical tools in order to support strategic and operational decision-making in a dynamic environment.		ZARZII_U03; ZARZII_U04; ZARZII_U06	
E4	create reports, visualizations, and managerial dashboards, as well as communicate analytical results and formulate recommendations for solving managerial problems.		ZARZII_U07	
Social competence: the student is ready to				
E5	responsible and ethical use of data and analytical and digital tools in professional activities, in support of social obligations and the public interest, taking into account the principles of information security, data protection, and sustainable development.			ZARZII_K03

Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	written test	L
E2	written test	L
E3	preparation of an analytical project	SW
E4	preparation of an analytical project	SW
E5	preparation of an analytical project	SW
Basic references	1	Lepenioti, K., Bousdekis, A., Apostolou, D., & Mentzas, G. (2020). <i>Prescriptive analytics: Literature review and research challenges</i> . Int. J. Inf. Manag., 50, 57-70. https://doi.org/10.1016/j.ijinfomgt.2019.04.003 .
	2	Hyndman, R. J., Athanasopoulos, G. (2021). <i>Forecasting: Principles and Practice</i> 3rd ed. Edition, ISBN 978-0987507136, https://otexts.com/fpp3/
	3	Lee, C. S., Cheang P. Y. S., Moslehpour, M. (2021). Predictive Analytics in Business Analytics: Decision Tree. <i>Advances in Decision Sciences</i> . https://doi.org/10.47654/v26y2022i1p1-30 .
Supplementary references	1	Peco-Yeste, M. (2024). <i>How to do strategic foresight</i> , NATO Defense College – Insight, ISSN: 3006-5399, https://0bbe2e34-e503-441a-af9e-4fc70c17e6af.usrfiles.com/ugd/471908_91edd3dacb64549b53b8f69bbcae58f.pdf

Supplementary references

- 2 Awan, U., Shamim, S., Khan, Z., Zia, N., Shariq, S., & Khan, M. (2021). *Big data analytics capability and decision-making: The role of data-driven insight on circular economy performance*. Technological Forecasting and Social Change. <https://doi.org/10.1016/j.techfore.2021.120766>.

Course coordinator	Łukasz Nazarko, PhD	Date:	5/6/2026
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COURSE DESCRIPTION CARD

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management				
Field of study		Management						Level and form of study		full-time second degree studies				
A group of modules /specialty		Innovation & Business Management						Education profile		general academic				
Course name		Career portfolio design						Course code		Z2Eza3s.013				
								Course type		elective				
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester	3				
		30				30			ECTS credits	4				
The programme is valid from										2026/2027				
Introductory courses														
Course objectives		The aim of the course is to develop students' competences in designing, managing, and presenting a professional career portfolio. Students learn to identify and evaluate their skills and achievements, align them with labour market requirements, and build a coherent personal brand. The course enhances abilities in career planning, digital self-presentation, and effective communication, while fostering reflective and lifelong learning attitudes.												
Framework programme content		The course covers the concept and role of a career portfolio in professional development. It includes methods of identifying and analysing individual competences, tools for career planning, and techniques for building a personal brand. Students learn how to prepare professional application documents, develop digital portfolios, and use online platforms. The programme also addresses communication and self-presentation skills, networking, labour market trends, and the documentation and presentation of professional achievements.												
Other information about the course		the course is related to the scientific activity conducted at the University												
		Student workload related to:							Total number of hours	including contact	including practical			
Calculation:		participation in lectures							30	30				
		participation in other forms of activities							30	30	30			
		preparation for passing a lecture							8					
		preparation for ongoing practical classes							32		32			
		Total number of hours:							100	60	62			
		Total number of ECTS credits:							4	2.4	2.5			
									Knowledge	Skills	Social competence			
Expected discipline learning outcomes									ZARZII_W05; ZARZII_W07	ZARZII_U03; ZARZII_U07; ZARZII_U10	ZARZII_K06			
Objectives and framework content prepared by		Ewa Rollnik-Sadowska, PhD							Date:		4/30/2026			
Implementation in the academic year										2027/2028				
		Lecture												
Programme content		1	Introduction to career portfolio design and its role in professional development											
		2	Contemporary labour market trends and employability in a global economy											
		3	Competence-based approach to career development											
		4	Methods of self-assessment and competence identification											
		5	Career planning and development strategies											
		6	Personal branding – concepts and tools											
		7	Professional identity and career positioning											
		8	Documentation of achievements and professional experience											
		9	CV and cover letter – standards and strategies											
		10	Digital portfolio and online professional presence											
		11	Communication and self-presentation in the labour market											
		12	Networking and relationship management in career development											
		13	Legal and ethical aspects of presenting professional achievements											
		14	Lifelong learning and career adaptability											
		15	Written test											
			Specialist workshop											
			1	Self-assessment of competences (tests, reflection exercises)										
			2	Development of individual competence profile										
			3	SWOT analysis of personal career potential										
			4	Designing an individual career development plan										
		5	Creating a professional CV (various formats)											
		6	Writing a tailored cover letter											
		7	Building and optimizing a LinkedIn profile											
		8	Creating a digital career portfolio (tools and platforms)											
		9	Documenting achievements and project experience											
		10	Workshop on personal branding elements											

	11	Autopresentation training and pitch development
	12	Simulation of job interviews
	13	Networking exercises and professional communication
	14	Finalisation of individual career portfolio (project work)
	15	Presentation and evaluation of career portfolio (feedback session)
	L	informative lecture (with multimedia presentation), problem-based lecture
Teaching methods (on-site classes)	SW	project-based learning (career portfolio development), case study analysis (career paths and portfolios), problem-solving tasks (career planning and labour market situations), guided discussions and debates, simulations (e.g. job interviews, networking situations)
Teaching methods (online classes)	L	informative lecture (with multimedia presentation), problem-based lecture on Ms Teams
	L	Written test
Forms of crediting	SW	Evaluation of project work of individual and group assignments related to the development of a career portfolio, presentations of the portfolio
	L	A positive grade is determined by the number of points obtained from the written test (more than 50% of the maximum number of points). The grading scale is as follows: 51–60% – satisfactory (dst) 61–70% – satisfactory plus (dst plus) 71–80% – good (db) 81–90% – good plus (db plus) 91–100% – very good (bdb)
Conditions of crediting	SW	The final grade is based on the number of points obtained from the completion of project tasks (individual and group) and presentation of portfolio. A condition for passing the course is achieving all intended learning outcomes. A positive grade is determined by obtaining more than 50% of the maximum number of points. The grading scale is as follows: 51–60% – satisfactory (dst) 61–70% – satisfactory plus (dst plus) 71–80% – good (db) 81–90% – good plus (db plus) 91–100% – very good (bdb)
Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study
		Knowledge Skills Social competence
	Knowledge: the student knows and understands	
E1	main development trends in the labour market and in the discipline of management and quality sciences, particularly in the context of career development and portfolio building	ZARZII_W05
E2	economic, legal, cultural, psychological and ethical conditions of professional functioning and building the image of a professional manager	ZARZII_W07
	Skills: the student can	
E3	critically analyse and synthesize information concerning their own competences and labour market requirements, and present them in the form of a career portfolio	ZARZII_U03
E4	communicate on topics related to their own professional development, prepare a professional self-presentation, and participate in discussions and portfolio presentations	ZARZII_U07
E5	independently plan and implement the development of their own competences, and create and update a career portfolio as a tool for lifelong learning	ZARZII_U10
	Social competence: the student is ready to	
E6	develop professional conduct, ensure the quality of their own achievements, and adhere to the principles of ethics and the professional ethos of the manager in the process of building a career and portfolio	ZARZII_K06
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	<i>Written test</i>	L
E2	<i>Written test</i>	L
E3	<i>Preparation of a portfolio</i>	SW
E4	<i>Portfolio presentation</i>	SW
E5	<i>Preparation and presentation of a portfolio</i>	SW
E6	<i>Preparation and presentation of a portfolio</i>	SW

Basic references	1	Beck R., The World of Work to 2030: A Practical Guide to Future-Proofing Your Business and Your Career, Bloomsbury Business, 2024.
	2	Moran M., Going Portfolio: How to Build a Portfolio Career; Move-by-Move, Filament Publishing, 2026.
	3	A. Kononiuk, E. Rollnik-Sadowska (eds.), Replay Your Futures – Labs for Exploring Undiscovered Pathways, Łukasiewicz Research Network – Institute for Sustainable Technologies, Radom, 2022. (Access online)
	4	Roslansky R., Raman A., Open to Work: The Essential Guide, from the LinkedIn CEO, to Building Confidence and Achieving Career Success in the Age of AI, HarperCollins, 2026.
	5	The Careers Handbook: The Ultimate Guide to Planning Your Future, Dorling Kindersley Verlag GmbH, 2022.
Supplementary references	1	Fitriani, N.A., Mar'Atana, A., Firdaus, F., Khotimah, N., Hutapea, P., Kurniawan, E., Nur, F., Novakarti, O., Sudagung, A.D., & Alamri, A.R.(2026). Career portfolio training as a strategy to increase student competitiveness in the workplace. Journal of Community Service and Empowerment. 7(1), 183-189. (Access online)
	2	Dębkowska, K., Gilińska, E., Kononiuk, A., Pokojńska, J., Poteralska, B., Szydło, J., Rollnik-Sadowska, E. (2022), Foresight of future competencies, Working Paper, No. 1, Polish Economic Institute, Warsaw. (Access online)
	3	World Economic Forum, The Future of Jobs Report 2025. (Access online)
Course coordinator	Ewa Rollnik-Sadowska, PhD	
	Date:	4/30/2026

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY				Faculty of Engineering Management			
Field of study	Management			Level and form of study	full-time second degree studies		
A group of modules /specialty	Innovation & Business Management			Education profile	general academic		
Course name	Diploma seminar 1			Course code	Z2Eza3s.101		
				Course type	elective		
Course form(s) and number of hours	L	C	LC	P	SW	FW	S
							30
							ECTS credits
							4
The programme is valid from	2026/2027						
Introductory courses							

Course objectives	The aim of the course is to provide current, structured, and in-depth knowledge in the methodology of social sciences, within the discipline of management and quality sciences, and to develop the ability to apply this knowledge in the process of writing a master's thesis. In particular, the student receives support in selecting a thesis topic that is consistent with the specific nature of the field of study and the chosen specialization, namely innovation&business management; identifying a research gap and the resulting scope of the thesis; and analyzing and using sources in accordance with copyright protection principles. The student learns how to communicate about a topic of their choice and present the results of their theoretical and cognitive research.
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Framework programme content	The student defines the topic and scope of the thesis appropriately to the level and profile of study and the chosen specialization, namely management in intelligent organizations. Identification of the research gap. Formulation of the thesis objectives. Development of the structure of the diploma thesis in line with the adopted objectives. Principles of preparing source material in accordance with copyright and intellectual property regulations. Ethics of conducting scientific research. The issue of using artificial intelligence in the process of writing a master's thesis. Monitoring the editorial and formal correctness of the theoretical part of the thesis.
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Other information about the course

Calculation:	Student workload related to:	Total number of hours	including contact	including practical
	participation in other forms of activities	30	30	30
	independent realization of tasks resulting from the scope of the diploma thesis	30	0	15
	preparation of a speech for a seminar	40		40
	Total number of hours:	100	30	85
	Total number of ECTS credits:	4	1.2	3.4

Expected discipline learning outcomes	Knowledge	Skills	Social competence
	ZARZII_W04; ZARZII_W07; ZARZII_W08	ZARZII_U01; ZARZII_U06; ZARZII_U10	ZARZII_K02

Objectives and framework content prepared by	Ewa Rollnik-Sadowska, PhD	Date:	5/6/2026
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Implementation in the academic year 2027/2028

Programme content	Seminar	
	1	Introductory issues for the classes and assessment rules.
	2	The subject of research in the discipline of management and quality sciences. Specific features distinguishing this scientific discipline from other disciplines in the field of social sciences.
	3	Principles for selecting and analyzing sources for the theoretical and cognitive part of the master's thesis, as well as identifying the research gap in the field of innovation&business management.
	4	Principles for formulating the topic and objectives of a thesis related to innovation&business management — analysis of examples.
	5	Educational discussion on proposed master's thesis topics related to innovation&business management.
	6	Principles for developing the structure and objectives of the master's thesis.
	7	Presentations of the diploma thesis structure by class participants.
	8	Techniques for preparing source references/footnotes.
	9	Legal and ethical conditions of master's students' research work in the age of AI — part 1.
	10	Legal and ethical conditions of master's students' research work in the age of AI — part 2.
	11	Guidelines on the editorial and formal aspects of master's theses adopted at the Faculty of Engineering Management, Bialystok University of Technology.
	12	The theoretical and cognitive part of the master's thesis — substantive, formal, and editorial aspects.
	13	Principles for preparing graphic materials in the master's thesis.
	14	Presentations of the results of theoretical and cognitive analyses by class participants.
	15	Assessment and summary of Diploma Seminar 1.

Teaching methods (on-site classes)	S	Problem-based lecture, educational discussion, text analysis with discussion
Teaching methods (online classes)	-	
Forms of crediting	S	assessment of the presentation
Conditions of crediting	S	A positive grade is determined by the number of points obtained from the presentation (more than 50% of the maximum number of points). The grading scale is as follows: 51–60% – satisfactory (dst) 61–70% – satisfactory plus (dst plus) 71–80% – good (db) 81–90% – good plus (db plus) 91–100% – very good (bdb)
Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study
		Knowledge Skills Social competence
	Knowledge: the student knows and understands	
E1	the methodology of management and quality sciences, with particular emphasis on the specific nature of managing intelligent organizations	ZARZII_W04; ZARZII_W07
E2	in an advanced degree, the concepts and principles of intellectual property protection and copyright law	ZARZII_W08
	Skills: the student can	
E3	to use, at an advanced level, the methodological knowledge possessed to identify a research gap, formulate the topic of a master's thesis, and define its objectives and structure	ZARZII_U01
E4	to evaluate, critically analyze, and synthesize information related to management in intelligent organizations, as well as creatively interpret and present this information	ZARZII_U06
E5	to independently plan and carry out the process of self-education and learning	ZARZII_U10
	Social competence: the student is ready to	
E6	to recognize, to an advanced degree, the importance of knowledge in the field of management and quality sciences in solving cognitive and practical problems related to management in intelligent organizations	ZARZII_K02
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	assessment of the presentation	S
E2	assessment of the presentation	S
E3	assessment of the presentation	S
E4	assessment of the presentation	S
E5	assessment of the presentation	S
E6	assessment of the presentation	S
Basic references	1	Research Methods for Business: A Skill Building Approach, John Wiley & Sons Inc., 2020.
	2	D. Muijs, Doing Quantitative Research in Education with IBM SPSS Statistics, Sage Publications, 2022.
	3	Qualitative Research Methods, Sage Publications, 2020.
	4	J. O. Schwarz, Strategic Foresight: An Introductory Guide to Practice, Taylor & Francis Ltd., 2023.
	5	H. Dzwigoł, Research Methodology in Management Science: Triangulation. VirtualEconomics, 2022, 5(1), 78-93. (Access online)
Supplementary references	1	V. Zumitavan, Social Science Methodologies for Management Research: From Philosophy to Practice in the AI Era, Springer, 2026.
	2	J. Mclevey, Doing Computational Social Science: A Practical Introduction, SAGE Publications Ltd., 2021.
	3	A. Lis, Profiling and Mapping the Contexts of the Case Study Research in Business, Management and Accounting. International Journal of Contemporary Management 2018, 17.1, 179–196.
Course coordinator	Ewa Rolnik-Sadowska, PhD	Date: 5/6/2026

COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY									Faculty of Engineering Management	
Field of study	Management								Level and form of study	full-time second degree studies
A group of modules /specialty	common courses								Education profile	general academic
Course name	Audit and controlling								Course code	Z2Eza4s.001
									Course type	mandatory
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Semester	4	
	30	30						ECTS credits	4	
The programme is valid from									2026/2027	
Introductory courses										

Course objectives	The aim of the course is to equip students with knowledge of the theoretical and practical aspects of the verification, evaluation, and optimization of enterprise operations through the use of internal and external audit tools and selected instruments of operational and strategic controlling. Students acquire the ability to plan the scope of an audit engagement, to identify areas in which irregularities may occur, and to apply selected controlling methods and tools in the evaluation of corporate performance. The course also develops the social competencies essential to the roles of auditor and controller, with particular emphasis on professional ethics, objectivity, and accountability for the information provided.
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Framework programme content	The nature and significance of audit in organizational management. Types of audit and methods applied in the examination of various areas of enterprise operations. Identification of risks associated with business activity. Organization of controlling and its role in modern enterprise management. Controlling methods and tools. Performance planning, preparation of performance reports, and variance analysis. Findings from audit and controlling and their application in operations and in planning the enterprise's development strategy.
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Other information about the course	the course is related to the scientific activity conducted at the University
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	Student workload related to:	Total number of hours	including contact	including practical
Calculation:	participation in lectures	30	30	
	participation in other forms of activities	30	30	30
	preparation for passing a lecture	10		
	preparation for the completion of classes	30		30
	Total number of hours:	100	60	60
	Total number of ECTS credits:	4	2.4	2.4

Expected discipline learning outcomes	Knowledge	Skills	Social competencies
	ZARZII_W03, ZARZII_W04	ZARZII_U01, ZARZII_U03	ZARZII_K02, ZARZII_K05

Objectives and framework content prepared by	Anna Bagieńska, PhD; Norbert Arszulowicz, PhD	Date: 29.04.2026
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Implementation in the academic year	2027/2028
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Programme content	Lecture	
	1	Audit – concept and legal framework. Internal and external audit. Operational and financial audit.
	2	Internal audit and internal control. Types of internal audit and the nature of audit work according to the Institute of Internal Auditors (IIA).
	3	Identification of risks associated with business activity. Audit risk in the audit planning process performed by the statutory auditor.
	4	Materiality in the audit of financial statements. Concept and examples of determining overall and performance (specific) materiality.
	5	Audit testing techniques and the gathering of audit evidence – the nature of audit evidence; inspection, observation, confirmation, recalculation, and analytical procedures.
	6	Auditor's competencies according to the standards and guidelines applied in internal audit. Independence and objectivity of the auditor. Code of Ethics.
	7	Audit findings and their application in the operational activities of management and in planning the company's development strategy.
	8	The nature and role of controlling in the functioning of contemporary enterprises.
	9	Selected controlling tools related to cost accounting – absorption costing and variable (direct) costing.
	10	Operational controlling: from cost accounting to managerial decisions – application of activity-based costing (ABC).
	11	Break-even point in operational controlling – analysis and application.
	12	Budgeting in an enterprise. Types of budgets and budgeting methods. Budget variances – types, evaluation, and causes.
	13	Examination and evaluation of the sales result variance.
	14	Application of controlling outputs in practice. Design of reporting systems.
15	Written final assessment – problem-based and test format.	
Classes		

	1	Internal vs. external audit – similarities, differences, and legal framework.
	2	Types of internal audit – practical application in enterprise operations.
	3	Identification and assessment of risks in business processes.
	4	Determining materiality thresholds in audit practice.
	5	Internal audit in individual departments of an enterprise.
	6	Financial audit – audit risk assessment, planning, ratio analysis, and examination of cash flows – Part 1.
	7	Financial audit – audit risk assessment, planning, ratio analysis, and examination of cash flows – Part 2.
	8	Controlling in an enterprise. Plan vs. actual performance. Cause-and-effect analysis.
	9	Absorption costing and variable costing in controlling.
	10	Application of activity-based costing (ABC).
	11	Break-even point analysis.
	12	Budget preparation in an enterprise.
	13	Analysis, evaluation, and reporting of budget variances.
	14	Operational controlling in practice.
	15	Written midterm test.
Teaching methods (on-site classes)	L	informational and problem-based lecture
	C	subject tutorials
Teaching methods (online classes)	L	synchronous informational and problem-based lectures with student interaction
Forms of crediting	L	written assessment in problem-based and test format
	C	assessment of tasks performed during tutorials; written midterm test

		The final assessment for the lecture course is a written test consisting of closed-ended (multiple-choice) and open-ended questions. Each correct answer is awarded 1 point. A minimum score of 51% is required to pass the exam with a grade of 3.0. Grading Scale: 2.0 (Fail): 0% – 50% 3.0 (Satisfactory): 51% – 60% 3.5 (Satisfactory Plus): 61% – 70% 4.0 (Good): 71% – 80% 4.5 (Good Plus): 81% – 90% 5.0 (Very Good): 91% – 100%
Conditions of crediting		The final grade for the classes is based on the total number of points earned from mid-term tests (colloquia) and class participation. The maximum score for the mid-term tests is 100 points. Additionally, students can earn 1 point for solving problems/case studies during class (up to a maximum of 5 points per semester). The final grade depends on the overall percentage score, calculated as the ratio of total points earned to the maximum possible points: 3.0 (Satisfactory): 50% – 60% 3.5 (Satisfactory Plus): 61% – 70% 4.0 (Good): 71% – 80% 4.5 (Good Plus): 81% – 90% 5.0 (Very Good): 91% – 100%

Outcome symbols	Expected learning outcomes	Reference to programme learning outcomes defined for the field of study		
		Knowledge	Skills	Social competencies
Knowledge: the student knows and understands				
E1	the nature, types, and role of audit in the functioning of contemporary organizations.	ZARZII_W03		
E2	the role and importance of applying operational controlling tools in the evaluation and planning of business activity.	ZARZII_W04		
Skills: the student is able to				
E3	identify and assess risk areas in enterprise operations.		ZARZII_U01	
E4	plan the financial results of an enterprise and evaluate observed variances.		ZARZII_U03	
E5	formulate findings and recommendations arising from audit and controlling in order to improve enterprise operations.		ZARZII_U03	
Social competencies: the student is ready to				
E6	critically evaluate their own knowledge and recognize the importance of audit as a tool for building transparency and trust in business.			ZARZII_K02, ZARZII_K05
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	written assessment		L	
E2	written assessment		L	
E3	written midterm test, assessment of problem-based tasks		C	
E4	written midterm test, assessment of problem-based tasks		C	

E5	<i>written midterm test, assessment of problem-based tasks</i>	C
E6	<i>solving problem-based tasks during classes</i>	C
Basic references	1 Arens, A.A., Elder, R.J., Beasley, M.S. and Hogan, C.E., Auditing and Assurance Services, 18th ed., Harlow: Pearson, 2023.	
	2 Acampora, A., Melnyk, A., Gatta, E.L. et al. Identifying barriers and facilitators to audit & feedback in general practice in Italy: a qualitative study. BMC Health Services Research 2026, 347, available on-line: https://doi-org.bazy.pb.edu.pl/10.1186/s12913-026-14141-w	
	3 Drury, C. and Tayles, M., Management and Cost Accounting, 12th ed., Andover: Cengage Learning EMEA, 2023.	
	4 Dědečková N., Control, controlling and its objectives in the organization, SHS Web of Conferences 83, 01009 (2020), available on-line: https://doi.org/10.1051/shsconf/20208301009	
Supplementary references	1 Clinton Free, Andrew J. Trotman, Ken T. Trotman; How Audit Committee Chairs Address Information-Processing Barriers. The Accounting Review 1 January 2021; 96 (1): 147–169. available on-line: https://doi.org/10.2308/tar-2018-0379	
	2 Helikum L.J., Jamal K., Tan H.-T., Xiao L., Can open audit committee chairs cure the chilling effect of management's presence on auditors' information sharing during audit committee meetings?, Accounting, Organizations and Society 2026, 116, art. no. 101618, available on-line: https://doi.org/10.1016/j.aos.2025.101618	
	3 Kuczyńska- Cesarz A., Use of financial analysis in external audit procedures, Modern Engineering 2020, no 2, p.62-74.	
Course coordinator	<i>Anna Bagieńska, PhD, Norbert Arszulowicz, PhD</i>	Date: 2026-04-29

COURSE DESCRIPTION CARD

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of of Engineering Management				
Field of study	Management							Level and form of study	full-time second degree studies					
A group of modules /specialty	Innovation & Business Management							Education profile	general academic					
Course name	International taxation and accountancy							Course code	Z2Eza4s.004					
								Course type	elective					
Course form(s) and number of hours	L	C	LC	P	SW	FW	S	Semester	4					
	30	30						ECTS credits	4					
The programme is valid from								2026/2027						
Introductory courses														
Course objectives		After this course students will acquire knowledge concerning key principles of tax and accounting systems used in developed economies. Students will gain skills necessary to evaluate tax systems present in their countries and anticipate potential changes in legislation. This in turn will help them in strategic management of the companies they will work in. Participants will also be in position to read with understanding financial statements and prepare basic accounting documents. Student will be capable of using basic performance measurement techniques to monitor business performance.												
Framework programme content		Fiscal policy in EU states. Characteristics of key taxes. Optimal tax. Tax management of international entities. Model tax convention. Tax optimization and anti-abusive rules. Introduction to financial and management accounting. Key documents in financial statements. Performance management. Ratio analysis. Costs and expenditures and costs classification. Cost calculations. Budget preparation. Presentation of information and reporting.												
Other information about the course		content of the course refers to the principles of sustainable development the course is related to the scientific activity conducted at the University												
Calculation:	Student workload related to:							Total number of hours	including contact	including practical				
	participation in lectures							30	30					
	participation in other forms of activities							30	30	30				
	completion of a project							15	0	15				
	preparation for passing a lecture							10						
	preparation for the completion of classes							15		15				
	Total number of hours:							100	60	60				
	Total number of ECTS credits:							4	2.4	2.4				
	Expected discipline learning outcomes								Knowledge	Skills	Social competence			
									ZARZII_W01; ZARZII_W03	ZARZII_U01; ZARZII_U03	ZARZII_K01			
Objectives and framework content prepared by		dr Andrzej Karpowicz						Date: 06.05.2026						
Implementation in the academic year								2027/2028						
Programme content	Lecture													
	1	Fiscal policy in the European Union – objectives, instruments, and interaction with economic policy.												
	2	Characteristics of key taxes in developed economies – direct and indirect taxation, tax structures and trends.												
	3	Principles of optimal taxation.												
	4	Tax management in international entities – role of taxation in business decision-making and corporate strategy.												
	5	Taxes in M&A process.												
	6	Model Tax Convention – structure, purpose, and application in international taxation.												
	7	Double taxation and its elimination – methods and practical implications for cross-border activities.												
	8	Tax optimisation and anti-avoidance measures – legal tax planning vs anti-abusive regulations.												
	9	Introduction to financial accounting – objectives, principles, and role in business information systems.												
	10	Key financial statements – structure and interpretation of balance sheet, income statement, and cash flow statement.												
	11	Introduction to management accounting – role in planning, control, and decision-making.												
	12	Cost concepts and classification – types of costs, cost behaviour, and cost allocation.												
	13	Cost calculation methods.												
	14	Budgeting and planning – preparation of budgets and their role in performance management.												
	15	Performance measurement and reporting – ratio analysis, evaluation of business performance, and presentation of financial information.												
	Classes													
	1	Analysis of fiscal policy instruments – discussion of real-world cases from EU countries.												
	2	Evaluation of tax systems – applying criteria of optimal taxation.												
	3	Comparative analysis of international tax systems – case-based discussions.												
4	Tax decision-making in companies – analysis of business cases involving taxation.													
5	Application of Model Tax Convention – interpretation of selected provisions.													
6	Double taxation cases – applying methods of elimination (exemption, credit method).													
7	Tax planning vs tax avoidance – case studies and identification of anti-abuse risks.													
8	Test 1													

	9	Analysis of financial statements.
	10	Application of management accounting in decision-making.
	11	Cost classification and behaviour – solving practical problems.
	12	Cost calculation methods – exercises in product costing and cost allocation.
	13	Budget preparation – developing simple operational and financial budgets.
	14	Performance evaluation – ratio analysis and preparation of a basic performance report.
	15	Test 2
Teaching methods (on-site classes)	L	informative and problem-based lecture
	C	subject-based classes
Teaching methods (online classes)	L	synchronous informative and problem-based lectures with student interaction
Forms of crediting	L	written exam (problem-solving and test-based)
	C	assessment of tasks completed during classes, written midterm test, project assignment
Conditions of crediting	L	The condition for passing the course is obtaining a positive grade in a written exam consisting of problem-solving tasks and test-based questions, verifying the achievement of the intended learning outcomes. The final grade is determined on the basis of the number of points obtained for individual parts of the exam, in accordance with the adopted assessment criteria: 51%–60% – 3.0 (satisfactory); 61%–70% – 3.5 (satisfactory plus); 71%–80% – 4.0 (good); 81%–90% – 4.5 (good plus); 91%–100% – 5.0 (very good).
	C	The condition for passing the classes is obtaining a positive grade based on the assessment of tasks completed during classes, a written midterm test, and a project assignment, verifying the achievement of the intended learning outcomes. The final grade is determined on the basis of the number of points obtained for individual forms of assessment, in accordance with the adopted assessment criteria: 51%–60% – 3.0 (satisfactory); 61%–70% – 3.5 (satisfactory plus); 71%–80% – 4.0 (good); 81%–90% – 4.5 (good plus); 91%–100% – 5.0 (very good).
Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study
		Knowledge Skills Social competence
Knowledge: the student knows and understands		
E1	the role of the tax system in the functioning of modern organisations, as well as the legal framework of taxation at the European Union and Member states levels	ZARZII_W03
E2	to an advanced extent, the processes related to organisational management, taking into account accounting regulations	ZARZII_W01
Skills: the student can		
E3	to apply their knowledge at an advanced level to solve complex and non-routine problems in the field of tax and accounting management	ZARZII_U01
E4	to assess and critically analyse events occurring within an enterprise and its environment, and translate them into tax and accounting obligations	ZARZII_U03
Social competence: the student is ready to		
E5	to critically evaluate, in depth, their own knowledge and received information in the field of business taxation and accounting	ZARZII_K01
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	written exam	L
E2	written exam	L
E3	written tests, project preparation	C
E4	written tests, project preparation	C
E5	activity	C
Basic references	1	OECD, Tax Morale II: Building Trust between Tax Administrations and Large Businesses. Paris: OECD Publishing, 2022.
	2	Schönhärl K., Hürlimann G., Rohde D. (Eds.), Histories of Tax Evasion, Avoidance and Resistance (1st ed.). Oxford: Taylor & Francis, 2022.
	3	OECD, Tax Administration 2023: Comparative Information on OECD and other Advanced and Emerging Economies, Paris: Organisation for Economic Co-operation and Development, 2023.
	4	ACCA applied skills: performance management (PM): study text, Berkshire: Kaplan Publishing, 2024.
	5	ACCA applied skills: performance management (PM): exam kit, Berkshire: Kaplan Publishing, 2024.
Supplementary references	1	OECD Model Tax Convention on Income and on Capital.
	2	ACCA applied skills: financial management (FM): course book: for exams in September 2024, December 2024, March 2025 and June 2025, London: BPP Learning Media, 2023.
	3	ACCA applied skills: financial management (FM): exam practice kit : for exams in September 2024, December 2024, March 2025 and June 2025, London: BPP Learning Media, 2024.
Course coordinator	dr Andrzej Karpowicz	Date: 5/6/2026

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management				
Field of study		Management						Level and form of study		full-time second degree studies				
A group of modules /specialty		common courses						Education profile		general academic				
A group of modules /specialty		Innovation management						Course code		Z2Eza4s.101				
								Course type		mandatory				
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester		4			
		30						ECTS credits		2				
The programme is valid from										2026/2027				
Introductory courses														
Course objectives		Providing knowledge on innovative management and increasing student knowledge on this subject. Presentation of models of innovative enterprise management. A presentation of the various facets of artificial intelligence and its applications in enterprises. Presentation of the role of business environment institutions.												
Framework programme content		Innovative management and its drivers and barriers. Business environment institutions including non-governmental organisations and entrepreneurship incubator. Models of innovative enterprise management. Artificial intelligence and the consequences of its use in the enterprise.												
Other information about the course		---												
		Student workload related to:							Total number of hours		including contact		including practical	
Calculation:		participation in lectures							30		30			
		preparation for passing a lecture							20		0			
		Razem godzin:							50		30		0	
		Razem punktów ECTS:							2		1.2		0.0	
Expected discipline learning outcomes									Knowledge		Skills		Social competence	
									ZARZII_W02; ZARZII_W05; ZARZII_W09		ZARZII_K04			
Objectives and framework content prepared by		prof. dr hab. Elżbieta Szymańska							Data:		05.05.2026 r.			
Implementation in the academic year		2027/2028												
		Lecture												
Programme content		1 Defining Innovation. The beginnings of innovation theory - introductory issues												
		2 The open innovation concept by Henry Chesbrough												
		3 User Driven Innovations process												
		4 R&D expenditure and economic development												
		5 The internal barriers of the innovation management and entrepreneurship												
		6 The external barriers of the innovation management and entrepreneurship												
		7 Internal factors supporting the innovation management and entrepreneurship												
		8 The external factors supporting the innovation management and entrepreneurship												
		9 Business environment institutions supporting innovative management and innovative entrepreneurship												
		10 The role of the entrepreneurship incubator												
		11 Non-governmental organizations (NGOs) support in the innovation management - part 1												
		12 Non-governmental organizations (NGOs) support in the innovation management - part 2												
		13 Models of the innovative company												
		14 Innovation management styles												
		15 Positive and negative sides of artificial intelligence in management. Written exam												
Teaching methods (on-site classes)		L	Problem-based and conversational lecture with multimedia presentation											
Teaching methods (online classes)		L	Problem-based and conversational lecture with multimedia presentation on the Teams platform											
Forms of crediting		L	Written descriptive exam											
Conditions of crediting		L	Students are required to attempt the course exam by the designated deadline. The written exam, based on the lecture, consists of open-ended questions. Students can earn 1 point for each correct answer. The grade is based on the student's total score. Grading criteria: 5.0 if the student earns 100-91% of all possible points in the tutorials 4.5 90%-81% 4.0 80%-71% 3.5 70%-61% 3.0 60%-51% 2.0 if the student earns less than 51%											

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	in-depth issues related to innovative management in the field of management and quality sciences, constituting an advanced theoretical basis for managerial activities	ZARZII_W02		
E2	main development trends of innovation within the discipline of management and quality science	ZARZII_W05		
E3	in-depth concepts and models for creating and developing various forms of innovation in enterprises	ZARZII_W09		
Social competence: the student is ready to				
E4	to think and act in an entrepreneurial manner and to initiate innovative projects			ZARZII_K04
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	Written descriptive exam		L	
E2	Written descriptive exam		L	
E3	Written descriptive exam		L	
E4	Written descriptive exam		L	
Basic references	1	Goffin K., Mitchel R., Innovation Management. Effective Strategy and Management, Bloomsbury Academic, 4th edition, London 2025		
	2	Szymańska E., Berbel-Pineda H.M., Innovation Processes – from Linear Models to Artificial Intelligence, „Engineering Management in Production and Services”, 2024, 16(3), p. 15-28, DOI: 10.2478/emj-2024-0020		
	3	Journal of Innovation Management, https://journalsojs3.fe.up.pt/index.php/jim		
Supplementary references	1	Szymańska E., Mobility Innovations in Peripheral Areas, Oficyna Wydawnicza Politechniki Białostockiej, Białystok 2023.		
	2	European Journal of Innovation Management, https://www.emerald.com/ejim		
	3	Organization for Economy Cooperation and Development (OECD) papers		
Course coordinator	prof. dr hab. Elżbieta Szymańska	Date:	2026-05-05	

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management				
Field of study		Management						Level and form of study		full-time second degree studies				
A group of modules /specialty		common courses						Education profile		general academic				
A group of modules /specialty		Управление инновациями						Course code		Z2Eza4s.102				
								Course type		mandatory				
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester		4			
		30						ECTS credits		2				
The programme is valid from										2026/2027				
Introductory courses														
Course objectives		Предоставление знаний в области инновационного управления и расширение знаний студентов по этой теме. Презентация моделей инновационного управления предприятием. Презентация различных аспектов искусственного интеллекта и его применения на предприятиях. Презентация роли институтов деловой среды.												
Framework programme content		Инновационное управление, его движущие силы и барьеры. Институты деловой среды, включая неправительственные организации и инкубаторы предпринимательства. Модели инновационного управления предприятиями. Искусственный интеллект и последствия его использования на предприятиях.												
Other information about the course		---												
Calculation:		Student workload related to:							Total number of hours		including contact		including practical	
		participation in lectures							30		30			
		preparation for passing a lecture							20		0			
		Razem godzin:							50		30		0	
		Razem punktów ECTS:							2		1.2		0.0	
Expected discipline learning outcomes									Knowledge		Skills		Social competence	
									ZARZII_W02; ZARZII_W05; ZARZII_W09				ZARZII_K04	
Objectives and framework content prepared by		prof. dr hab. Elżbieta Szymańska							Data:		05.05.2026 r.			
Implementation in the academic year										2027/2028				
Programme content		Lecture												
		1 Определение инноваций. Начало теории инноваций — вводные вопросы												
		2 Концепция открытых инноваций Г. Чесбро (H. Chesbrough)												
		3 Процесс инноваций, инициированных пользователями												
		4 R&D расходы и экономическое развитие												
		5 Внутренние барьеры в управлении инновациями и предпринимательстве												
		6 Внешние барьеры в управлении инновациями и предпринимательстве												
		7 Внутренние факторы, способствующие управлению инновациями и предпринимательству.												
		8 Внешние факторы, способствующие управлению инновациями и предпринимательству												
		9 Институты деловой среды, поддерживающие инновационное управление и инновационный бизнес												
		10 The role of the entrepreneurship incubator												
		11 Поддержка неправительственных организаций (НПО) в управлении инновациями - часть 1												
		12 Поддержка неправительственных организаций (НПО) в управлении инновациями - часть 2												
		13 Модели инновационной компании												
		14 Стили управления инновациями												
		15 Положительные и отрицательные стороны искусственного интеллекта в управлении												
Teaching methods (on-site classes)		L	Лекция, основанная на решении проблем и в форме беседы, с использованием мультимедийной презентации											
Teaching methods (online classes)		L	Лекция в формате обсуждения и решения проблем, с мультимедийной презентацией на платформе Teams											
Forms of crediting		L	Письменный описательный экзамен											
Conditions of crediting		L	Студенты обязаны завершить курс к установленному сроку. Письменный экзамен, основанный на лекциях, состоит из вопросов открытого типа. За каждый правильный ответ студент может получить 1 балл. Оценка выставляется на основе общего балла студента. Критерии оценки: 5,0, если студент набрал 100-91% от общего количества баллов, доступных на семинарах, 4,5, если 90%-81%, 4,0, если 80%-71%, 3,5, если 70%-61%, 3,0, если 60%-51%, 2,0, если менее 51%.											

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowlegde	Skills	Social competence
Knowledge: the student knows and understands				
E1	Углубленное изучение вопросов, связанных с инновационным управлением в области менеджмента и наук о качестве, формирующее передовую теоретическую основу для управленческой деятельности	ZARZII_W02		
E2	Основные тенденции развития инноваций в рамках дисциплины управления и науки о качестве	ZARZII_W05		
E3	Углубленные концепции и модели для создания и развития различных форм инноваций на предприятиях	ZARZII_W09		
Social competence: the student is ready to				
E4	мыслить и действовать в предпринимательском духе и инициировать инновационные проекты			ZARZII_K04
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	Письменный описательный экзамен		Л	
E2	Письменный описательный экзамен		Л	
E3	Письменный описательный экзамен		Л	
E4	Письменный описательный экзамен		Л	
Basic references	1	Дмитриева Е. Л., Коробова О. В., Королькова Е. М., Управление Инновациями, Тамбов Издательский центр ФГБОУ ВО «ТГТУ» 2024, https://www.tstu.ru/book/elib1/pdf/2024/Dmitrieva.pdf		
	2	Доклад о технологиях и инновациях, Организация Объединенных Наций (ОНЗ) , 2025, https://unctad.org/system/files/official-document/tir2025overview_ru.pdf		
	3	Научный журнал „Управление Инновациями“		
Supplementary references	1	Владимировна Богомолова А. , Николаевна Жигалова В., Современное образование: интеграция образования, науки, бизнеса и власти, 2022, УДК 37.09, https://nmk.tusur.ru/storage/150713/conference-2022_2.pdf#page=203		
	2	Журнал „Современная Наука и Инновации“		
	3	Документы Организации Экономического Сотрудничества и Развития (ОЭСР)		
Course coordinator	prof. dr hab. Elżbieta Szymańska	Date:	2026-05-05	

BIAŁYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management									
Field of study				Management						Level and form of study		full-time second degree studies							
A group of modules /specialty				Innovation & Business Management						Education profile		general academic							
Course name				Diploma seminar 2						Course code		Z2Eza4s.201							
										Course type		elective							
Course form(s) and number of hours				L	C	LC	P	SW	FW	S	Semester		4						
										30	ECTS credits		2						
The programme is valid from										2026/2027									
Introductory courses										Z2Eza3s.101									
Course objectives				The aim of the course is to provide current, structured, and in-depth knowledge in the methodology of social sciences, within the discipline of management and quality sciences, and to develop the ability to apply this knowledge in the process of writing a master's thesis. In particular, the student receives support in formulating research problems and hypotheses, selecting research methods, techniques, and tools, as well as defining the research sample. The student becomes familiar with advanced tools for analyzing the results of qualitative and quantitative research. The course develops the skills and social competencies necessary to formulate accurate and reliable research conclusions.															
Framework programme content				The student defines the subject of research, research problems, and research hypotheses. Principles for selecting research methods, techniques, and tools, as well as the research sample. Tools for analyzing quantitative and qualitative research. Ethics of conducting empirical scientific research. Formulating accurate and reliable research conclusions. The issue of using artificial intelligence in the process of writing a master's thesis. Monitoring the editorial and formal correctness of the methodological and empirical parts of the thesis.															
Other information about the course																			
				Student workload related to:										Total number of hours		including contact		including practical	
Calculation:				participation in other forms of activities										30		30		30	
				preparation of a speech for a seminar										10				5	
				preparation for classes										10				10	
				Total number of hours:										50		30		45	
				Total number of ECTS credits:										2		1.2		1.8	
														Knowledge		Skills		Social competence	
Expected discipline learning outcomes														ZARZII_W04; ZARZII_W05; ZARZII_W07; ZARZII_W08		ZARZII_U01; ZARZII_U06; ZARZII_U10		ZARZII_K06	
Objectives and framework content prepared by				Ewa Rollnik-Sadowska, PhD										Date: 06.05.2026					
Implementation in the academic year				2027/2028															
				Seminar															
				1 Introductory issues for the classes and assessment rules (1 hour)															
				2 Formulating research problems related to the specific nature of innovation & business management (2 hours)															
				3 Principles for formulating research hypotheses (2 hours)															
				4 Selection and description of the research sample. The essence of sample representativeness (2 hours)															
				5 Educational discussion on proposed research problems and hypotheses related to innovation & business management (2 hours)															
Programme content				6 Principles for selecting research methods, techniques, and research tools (2 hours)															
				7 Quantitative research methods in management and quality sciences, and tools for their analysis (3 hours)															
				8 Qualitative research methods in management and quality sciences, and tools for their analysis (2 hours)															
				9 Legal and ethical conditions of quantitative and qualitative research in management and quality sciences (2 hours)															
				10 The use of artificial intelligence in the research process (2 hours)															
				11 The methodological and empirical parts of the master's thesis — analysis of examples (2 hours)															
				12 Introduction and conclusion of the thesis — substantive, formal, and editorial aspects (2 hours)															
				13 Principles for preparing the bibliography in the master's thesis (1 hour)															
				14 Presentations of the results of empirical research by class participants (3 hours)															
				15 Assessment and summary of Diploma Seminar 1 (2 hours)															

Teaching methods (on-site classes)	S	Problem-based lecture, educational discussion, text analysis with discussion
Teaching methods (online classes)	S	Problem-based lecture, educational discussion, text analysis with discussion
Forms of crediting	S	assessment of the master's thesis
Conditions of crediting	S	A positive grade is determined by the number of points obtained from the presentation (more than 50% of the maximum number of points). The grading scale is as follows: 51–60% – satisfactory (dst) 61–70% – satisfactory plus (dst plus) 71–80% – good (db) 81–90% – good plus (db plus) 91–100% – very good (bdb)

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	the methodology of management and quality sciences, with particular emphasis on the specific nature of quantitative and qualitative empirical research	ZARZII_W04; ZARZII_W05; ZARZII_W07		
E2	in an advanced degree, the concepts and principles of intellectual property protection and copyright law	ZARZII_W08		
Skills: the student can				
E3	to use, at an advanced level, the methodological knowledge possessed to formulate research problems and hypotheses, select research methods, techniques, and tools, as well as the research sample		ZARZII_U01; ZARZII_U06	
E4	to evaluate, critically analyze, and synthesize research results using specialized software		ZARZII_U06	
E5	to independently plan and carry out the process of self-education and learning		ZARZII_U10	
Social competence: the student is ready to				
E6	to develop the achievements of the managerial profession and uphold the ethos of this profession, as well as to observe and develop the principles of professional ethics and act in support of compliance with these principles in the research process for the master's thesis			ZARZII_K06

Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	assessment of the master's thesis	S
E2	assessment of the master's thesis	S
E3	assessment of the master's thesis	S
E4	assessment of the master's thesis	S
E5	assessment of the master's thesis	S
E6	assessment of the master's thesis	S

Basic references	1	Research Methods for Business: A Skill Building Approach, John Wiley & Sons Inc., 2020.
	2	Muijs D., Doing Quantitative Research in Education with IBM SPSS Statistics, Sage Publications, 2022.
	3	Qualitative Research Methods, Sage Publications, 2020.
	4	Schwarz J. O., Strategic Foresight: An Introductory Guide to Practice, Taylor & Francis Ltd., 2023.

Supplementary references	1	Zumitzavan V., Social Science Methodologies for Management Research: From Philosophy to Practice in the AI Era, Springer, 2026.
	2	Mclevey J. , Doing Computational Social Science: A Practical Introduction, SAGE Publications Ltd., 2021.
	3	Dzwigol H., Research Methodology in Management Science: Triangulation. VirtualEconomics, 2022, 5(1), 78-93. Tryb dostępu: https://virtual-economics.eu/index.php/VE/article/view/145

Course coordinator	Ewa Rollnik-Sadowska, PhD	Date:	5/6/2026
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COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY		Faculty of Engineering Management	
Field of study	Management	Level and form of study	full-time second degree studies
A group of modules /specialty	Innovation & Business Management	Education profile	general academic
Course name	Diploma thesis	Course code	Z2Eza4s.301
		Course type	elective
Course form(s) and number of hours	L C LC P SW FW S	Semester	4
		ECTS credits	15
The programme is valid from	2026/2027		
Introductory courses	Z2Eza3s.101		
Course objectives	The aim of the course is to prepare students to write a master's thesis appropriate to the level and profile of study, taking into account the requirements arising from external and internal regulations. In particular, the student receives individual substantive support from the supervisor necessary to prepare the thesis. This support concerns the selection of a topic consistent with the specific nature of the field of study and the chosen specialization, namely management of intelligent organizations; defining the scope of the thesis; formulating its objectives; conducting methodologically correct diagnoses and analyses; and formulating accurate conclusions.		
Framework programme content	The student defines the topic and scope of the thesis appropriately to the level and profile of study and the chosen specialization, namely innovation & business management. Formulation of the thesis objectives, research problems, and hypotheses. Development of the structure of the diploma thesis in line with the adopted objectives. Support for the diploma student in selecting research and analytical methods and tools. Didactic supervision over the proper preparation of source material, including empirical material. Monitoring editorial and formal correctness. Substantive support in preparing for the thesis defense and diploma examination.		
Other information about the course			
	Student workload related to:	Total number of hours	including contact
Calculation:	independent realization of tasks resulting from the scope of the diploma thesis	375	25
		188	
	Total number of hours:	375	25
	Total number of ECTS credits:	15	1.0
		7.5	
		Knowledge	Skills
			Social competence
Expected discipline learning outcomes		ZARZII_W04; ZARZII_W07; ZARZII_W08	ZARZII_U01; ZARZII_U03; ZARZII_U04; ZARZII_U06; ZARZII_U10 ZARZII_K02
Objectives and framework content prepared by	Ewa Rollnik-Sadowska, PhD	Date:	5/6/2026
Implementation in the academic year	2027/2028		
	-		
Programme content	1	Defining the rules of cooperation between the supervisor and the diploma student, and establishing the work schedule (1 hour)	
	2	Defining by the student the topic and scope of the thesis appropriately to the level and profile of study and the specialization: innovation & business management (2 hours)	
	3	Support in the analysis and synthesis of sources, and identification of the research gap (2 hours)	
	4	Formulating the cognitive and utilitarian objectives of the master's thesis appropriately to the specific nature of the specialization: management in intelligent organizations (1 hour)	
	5	Support in developing the structure of the master's thesis in line with the thesis objectives (2 hours)	
	6	Supervisor's guidance in selecting sources and documenting the use of literature on the problem (1 hour)	
	7	Supervisor's guidance in preparing the theoretical and cognitive part of the master's thesis (2 hours)	
	8	Formulating research problems (1 hour)	
	9	Formulating research hypotheses (1 hour)	
	10	Selection of research methods and tools, as well as the research sample (2 hours)	
	11	Supervisor's guidance in the proper development of research tools (2 hours)	
	12	Support in selecting tools, including specialized software, for analyzing research results (2 hours)	
	13	Support in formulating conclusions from empirical research (2 hours)	
	14	Didactic supervision over the proper preparation of source material, including empirical material. Monitoring the editorial and formal correctness of the thesis (2 hours)	
	15	Substantive support in preparing for the diploma thesis defense and diploma examination (2 hours)	
Teaching methods (on-site classes)	-	individual substantive support for the student; work with text	

Teaching methods (online classes)	-
Forms of crediting	- assessment of the master's thesis in accordance with the guidelines adopted at the Faculty of Engineering Management and the criteria included in the diploma thesis assessment form, including the assessment of substantive, formal, and editorial aspects
Conditions of crediting	- assessment of the master's thesis in accordance with the guidelines adopted at the Faculty of Engineering Management and the criteria included in the diploma thesis assessment form, including the assessment of substantive, formal, and editorial aspects

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	principles of preparing and defending a master's thesis appropriate to the level and profile of study and confirming the achievement of the programme learning outcomes	ZARZII_W04; ZARZII_W07		
E2	in an advanced degree, the concepts and principles of intellectual property protection and copyright law	ZARZII_W08		
Skills: the student can				
E3	to use, at an advanced level, the knowledge possessed to formulate and solve complex and unusual problems related to innovation & business management		ZARZII_U01	
E4	to formulate and verify hypotheses related to simple research problems specific to management and quality sciences, with particular emphasis on innovation & business management		ZARZII_U06	
E5	to diagnose problems, phenomena, and processes in the field of innovation & business management, properly analyze research results, and, on their basis, formulate correct and logical improvement-oriented conclusions in accordance with the learning outcomes established for the programme		ZARZII_U03; ZARZII_U04	
E6	to evaluate, critically analyze, and synthesize information related to innovation & business management, as well as creatively interpret and present this information		ZARZII_U03	
E7	to independently plan and carry out the process of self-education and learning		ZARZII_U10	
Social competence: the student is ready to				
E8	to recognize, to an advanced degree, the importance of knowledge in the field of management and quality sciences in solving cognitive and practical problems related to innovation & business management			ZARZII_K02

Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	<i>assessment of the master's thesis</i>	diploma thesis
E2	<i>assessment of the master's thesis</i>	diploma thesis
E3	<i>assessment of the master's thesis</i>	diploma thesis
E4	<i>assessment of the master's thesis</i>	diploma thesis
E5	<i>assessment of the master's thesis</i>	diploma thesis
E6	<i>assessment of the master's thesis</i>	diploma thesis
E7	<i>assessment of the master's thesis</i>	diploma thesis
E8	<i>assessment of the master's thesis</i>	diploma thesis

Basic references	1	Research Methods for Business: A Skill Building Approach, John Wiley & Sons Inc., 2020.
	2	Muijs D., Doing Quantitative Research in Education with IBM SPSS Statistics, Sage Publications, 2022.
	3	Qualitative Research Methods, Sage Publications, 2020.
	4	Schwarz J. O., Strategic Foresight: An Introductory Guide to Practice, Taylor & Francis Ltd., 2023.

Supplementary references	1	Zumitzavan V., Social Science Methodologies for Management Research: From Philosophy to Practice in the AI Era, Springer, 2026.
	2	Mclevey J. , Doing Computational Social Science: A Practical Introduction, SAGE Publications Ltd., 2021.
	3	Dzwigoł H., Research Methodology in Management Science: Triangulation. VirtualEconomics, 2022, 5(1), 78-93. Tryb dostępu: https://virtual-economics.eu/index.php/VE/article/view/145

Course coordinator	<i>Ewa Rollnik-Sadowska, PhD</i>	Date:	5/6/2026
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COURSE DESCRIPTION CARD

BIALYSTOK UNIVERSITY OF TECHNOLOGY										Faculty of Engineering Management				
Field of study		Management						Level and form of study		full-time second degree studies				
A group of modules /specialty		common courses						Education profile		general academic				
Course name		Internship						Course code		Z2Eza4s.401				
								Course type		mandatory				
Course form(s) and number of hours		L	C	LC	P	SW	FW	S	Semester		4			
The programme is valid from										ECTS credits		3		
Introductory courses		2026/2027												
Course objectives		The aim of the internship is to provide advanced preparation for students to perform professional and managerial roles in organizations, in particular: to develop skills in analyzing and improving management processes across various areas of organizational activity; to apply advanced knowledge in managerial decision-making, solving complex organizational problems, and project management; to develop leadership competencies and strategic thinking; and to gain experience in working in a dynamic business environment, as well as building professional relationships and networks.												
Framework programme content		In-depth familiarization with the characteristics of the organization, including its strategy, business model, and relationships with the environment. Analysis of the organizational structure, management processes, and interdependencies between key areas of the organization's activity. Understanding the legal and economic conditions of organizational functioning. Participation in analytical, project-based, or decision-support tasks within selected areas of management. Performing tasks under the supervision of the internship supervisor, with an emphasis on independent problem-solving and teamwork.												
Other information about the course														
Calculation:		Student workload related to:							Total number of hours		including contact		including practical	
		completion of professional training							75		56.25		75	
		Total number of hours:							75		56		75	
		Total number of ECTS credits:							3		2.3		3.0	
Expected discipline learning outcomes									Knowledge		Skills		Social competence	
									ZARZII_W03; ZARZII_W07		ZARZII_U03; ZARZII_U09		ZARZII_K01; ZARZII_K02	
Objectives and framework content prepared by		Anna Tomaszuk, PhD							Date:		05.05.2026			
Implementation in the academic year		2027/2028												
		Course forms I												
Programme content		1	Familiarization with health and safety (OHS) regulations applicable in the organization, as well as with basic documents governing its operations (e.g., statutes, regulations, procedures).											
		2	In-depth analysis of the organization's activities, its business model, and its competitive position in the market environment.											
		3	Analysis of economic, legal, and social conditions affecting the functioning of the organization.											
		4	Identification and analysis of key problems and managerial dilemmas within the organization.											
		5	Participation in decision-making processes at the operational or tactical level (subject to organizational possibilities).											
		6	Analysis and evaluation of the effectiveness of selected organizational processes (e.g., operational, HR, marketing, financial).											
		7	Implementation of project tasks of an analytical or conceptual nature.											
		8	Preparation of analyses, reports, and presentations supporting decision-making processes.											
		9	Collaboration with project teams and participation in organizational projects.											
		10	Consultation of proposed solutions with the internship supervisor and/or organizational experts.											
Teaching methods (on-site classes)		-												
Teaching methods (online classes)		-												
Forms of crediting		- For the "PASS" grade, based on entries confirmed by the workplace supervisor in the "Traineeship Logbook"/"Traineeship Form" and a certificate confirming completion of the internship/professional work experience.												
Conditions of crediting		- The internship is graded as "PASS" by an appointed academic teacher on the basis of entries in the "Traineeship Logbook"/"Traineeship Form" (confirmed by the workplace supervisor), confirming that the student has achieved the learning outcomes assigned to the internship, as well as a certificate confirming completion of the internship/professional work experience.												

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowledge	Skills	Social competence
Knowledge: the student knows and understands				
E1	key functional and strategic aspects of managing an organization, including the interrelationships between different areas of business activity and the importance of sustainable development	ZARZII_W03		
E2	economic, legal, social, and ethical conditions of managerial activity and their impact on decision-making within an organization	ZARZII_W07		
Skills: the student can				
E3	analyze, interpret, and synthesize complex information related to the functioning of an organization and formulate conclusions supporting decision-making processes		ZARZII_U03	
E4	effectively collaborate with others, assuming organizational roles and responsibility for task execution		ZARZII_U09	
Social competence: the student is ready to				
E5	in-depth, critical assessment of one's knowledge and of information used in management practice			ZARZII_K01
E6	recognition of the importance of knowledge and expert opinions in solving complex organizational problems and functioning in a professional environment			ZARZII_K02
Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification		
E1	confirmation in the "Traineeship Logbook" by the workplace supervisor / confirmation in the "Traineeship Form"			
E2	confirmation in the "Traineeship Logbook" by the workplace supervisor / confirmation in the "Traineeship Form"			
E3	confirmation in the "Traineeship Logbook" by the workplace supervisor / confirmation in the "Traineeship Form"			
E4	confirmation in the "Traineeship Logbook" by the workplace supervisor / confirmation in the "Traineeship Form"			
E5	confirmation in the "Traineeship Logbook" by the workplace supervisor / confirmation in the "Traineeship Form"			
E6	confirmation in the "Traineeship Logbook" by the workplace supervisor / confirmation in the "Traineeship Form"			
Basic references	1	Regulations for Studies at Bialystok University of Technology		
	2	Regulations for student internships conducted within second-cycle (Master's) studies, general academic profile, at the Faculty of Engineering Management, Bialystok University of Technology		
Supplementary references	1	information available in the "student internships" section for the Management programme at the Faculty of Engineering Management, Bialystok University of Technology https://wiz.pb.edu.pl/studenci/organizacja-toku-studiow/praktyki-studenckie/zarzadzanie/		
	2	internal documents provided at the place of internship, e.g., standards, regulations, instructions, ordinances, workplace procedures, etc.		
Course coordinator	Anna Tomaszuk, PhD	Date:	5/5/2026	