

### COURSE DESCRIPTION CARD

Bialystok University of Technology Faculty of Engineering Management									
<b>Field of study</b>	<b>Management</b>							<b>Degree level and programme type</b>	<b>first degree/second degree</b>
<b>Specialisation/ diploma path</b>	-							<b>Study profile</b>	-
<b>Course name</b>	<b>Business Forecasting</b>							<b>Course code</b>	<b>IS-FM-00077S</b>
								<b>Course type</b>	<b>elective</b>
<b>Forms and number of hours of educational activities</b>	<b>L</b>	<b>C</b>	<b>LC</b>	<b>P</b>	<b>SW</b>	<b>FW</b>	<b>S</b>	<b>Semester</b>	<b>summer</b>
		30						<b>No. of ECTS credits</b>	<b>6</b>
<b>Entry requirements</b>	basic knowledge of statistics, mathematics, IT basic tools								
<b>Course objectives</b>	The subject is designed to get the students acquainted with the modern knowledge of forecasting and its possible way of practical applications by managers.								
<b>Course content</b>	The introduction of forecasting theory. The role of forecasts in business practise. Methods of business data gathering and transforming. Time series decomposition. Various kinds of forecasts methods: naive method and its modifications, moving average methods, exponential smoothing methods, Holt's method, Holt-Winters method. Measuring forecast accuracy. Time series forecasting. Advanced forecasting models.								
<b>Teaching methods</b>	problem tasks solved in small groups and individually, project method								
<b>Assessment method</b>	Project task, test of knowledge								
<b>Symbol of learning outcome</b>	<b>Learning outcomes</b>							<b>Reference to the learning outcomes for the field of study</b>	
	<b>Knowledge: the graduate knows and understands</b>							-	
<b>LO1</b>	how to classify and describe forecasting methods possible to use in an enterprise							-	
<b>LO2</b>	how to handle the trend, seasonal and cyclical issues in forecasting analysis.							-	
	<b>Skills: the graduate is able to</b>							-	

L03	evaluate the formulated forecasts and makes conclusions about their admissibility and accuracy, interprets the obtained results in terms of their further use in enterprise practice, justifies the conclusions drawn	-
L04	collect and analyzes data on quantitative and qualitative variables characterizing phenomena occurring in an enterprise	-
L05	construct business forecasts using various forecasting methods	-
L06	apply computer tools supporting the construction of forecasts and using them	-
	<b>Social competence: the graduate is ready to</b>	-
L07	Work in the group upon the common task	
<b>Symbol of learning outcome</b>	<b>Methods of assessing the learning outcomes</b>	<b>Type of tuition during which the outcome is assessed</b>
L01	Individual work during classes, project report	C
L02	Individual work during classes, project report	C
L03	Individual work during classes, project report	C
L04	Individual work during classes, project report	C
L05	Individual work during classes, project report	C
L06	Individual work during classes, project report	C
L07	Individual work during classes, project report	C
<b>Student workload (in hours)</b>		<b>No. of hours</b>
<b>Calculation</b>	Participation in classes	30
	Participation in consultations	10
	Preparation to the knowledge test	20
	Preparing for classes	45
	Preparing a project task	45
	<b>TOTAL:</b>	<b>150</b>
<b>Quantitative indicators</b>		<b>HOURS</b>
<b>Student workload – activities that require direct teacher participation</b>		<b>40</b>
<b>Student workload – practical activities</b>		<b>110</b>
<b>Basic references</b>	<ol style="list-style-type: none"> <li>1. Makridakis S., Wheelwright S., Hyndman R. (1998). Forecasting: Methods and Applications . Third edition, John Wiley and Sons.</li> <li>2. Armstrong, J. S., ed. (2001). Principles of forecasting: a handbook for researchers and practitioners. Boston, MA: Kluwer Academic Publishers.</li> <li>3. Ord, J. K. and R. Fildes (2012). Principles of business forecasting. South Western College Pub.</li> <li>4. Bovas A., Ledolter J. (1983). Statistical Methods for Forecasting. New York, NY: John Wiley &amp; Sons, Inc.</li> </ol>	

	<ol style="list-style-type: none"> <li>5. Ali M., Boylan J., Syntetos A. (2015). Forecast Errors and Inventory Performance under Forecast Information Sharing, International Journal of Forecasting 28 (4): 830–41.</li> <li>6. Diebold, Francis X. Elements of forecasting. South-Western College Pub. (latest version)</li> <li>7. Bowerman, Bruce L., Richard T. O'Connell, and Anne B. Koehler. Forecasting, time series, and regression: an applied approach. (latest version)</li> </ol>	
<b>Supplementary references</b>	<ol style="list-style-type: none"> <li>1. Hyndman, R.j. Koehler, A. B. (2006), Another look at measures of forecast accuracy, International Journal of Forecasting, 22(4): 679-688</li> <li>2. Winkowski C. (2019), Classification of forecasting methods in production engineering, Engineering Management in Production and Services 11 (4): 23-33</li> <li>3. Hanke, John E., Arthur G. Reitsch, and Dean W. Wichern. Business forecasting. Vol. 9. Upper Saddle River, NJ: Prentice Hall. (latest version)</li> <li>4. Wilson, J. Holton. Business forecasting. Tata McGraw-Hill Education (latest version)</li> </ol>	
<b>Organisational unit conducting the course</b>	International Department of Logistics and Service Engineering	<b>Date of issuing the programme</b>
<b>Author of the programme</b>	Justyna Kozłowska, PhD	22.02.2022

**L – lecture, C – classes, LC – laboratory classes, P – project, SW – specialization workshop, FW - field work, S – seminar**