Module description (syllabus): Prognozowanie w gospodarce i biznesie

Module title:	**Prognozowanie w gospodarce i biznesie**	**ECTS**	**5**
Module title translation:	Economic and business forecasting		
Module for study direction:	**Erasmus**		

Module language: **angielski**		Study level: **2**	
Study cycle: **stacjonarne**	Module status: **kierunkowy - obowiązkowy**	Semester number: **4** **semestr letni**	
Academic Year from which module description is valid :		**2019/2020**	Catalogue number: **EKR-E-2S-4-37-KF-2019-ERA**

Person in charge of the module:	**Hamulczuk Mariusz, dr. hab.**		
Teachers responsible for classes:	**Hamulczuk Mariusz dr. hab. inż., Department Staff**		
Unit responsible for the module:	**Katedra Ekonomii Międzynarodowej i Agrobiznesu**		
Faculty in charge:	**Wydział Ekonomiczny**		
Objectives of the module:	a. Introduce students with forecasting process b. Introduce students with statistical techniques of predicting economic processes c. Showing of capability of analysis of economic reality and predicting of future with utilization of available statistic software d. Equip students with adequate statistical tools and knowledge to make precise decisions in business and economy **Lectures** **Classes** Data analysis, Selecting the forecasting method, Forecasting model, evaluation, forecasting errors, Time series decomposition, Moving averages, Exponential smoothing methods, Trend line extrapolation method, ARIMA ans SARIMA models, Causal models and regression analysis: discovering relationships, choosing variables, model building, assessing adequacy of the model, Dynamic regression model. The use of the forecasting methods in practice: combination approach. Forecasting report.		
Teaching forms and number of hours:	a. laboratory classes - no of hours: full time study: 30, niestacj. 0		
Teaching methods:	discussion, problem solving, consultation with the lecturer, lectures, case study, individual student projects		
Initial requirements and formal prerequisities:	matematyka, statystyka, ekonometria		
Learning outcomes:	**Knowledge - knows and understands:** 1. The student knows methods and techniques of analysis and forecasting of economic and business processes	**Skills - can:** 2. The student is able to choose the appropriate forecasting method to empirical data and to compute a forecast on its basis. 3. The student is able to assess the quality of the prognostic model and assess the feasibility of estimates and forecasts in the light of theoretical and empirical premises.	**Competences - is ready for:** 4. The student is ready to solve analytical and prognostic problems necessary in making economic decisions.
Assessement methods:	evaluation of the presentation during the class (effects: 1, 2, 3), assessment of the project work (effects: 1, 2, 3, 4)		
Formal documentation of the learning outcome:	individual student's projects		
Elements of the final grade and their weights:	evaluation of the presentation during the class - 20%, assessment of the project work - 80%		
Place of teaching:	Laboratorium komputerowe		

Teaching materials (obligatory and additional):

1. Forecasting Methods and Applications. S. Makridakis, S.C. Wheelwright and R. Hyndman, Wiley (3rd Ed.), 1998.
2. Forecasting: Principles and Practice. R.J. Hyndman, & G. Athanasopoulos, OTexts: Melbourne, Australia, 2018
3. Principles of Forecasting: A Handbook for Researchers and Practitioners. J. Scott Armstrong (ed.): Norwell, MA: Kluwer Academic Publishers 2001.
4. A companion to economic forecasting. M. Clements, Blackwell Companions to Contemporary Economics, 2004.
5. Practical business forecasting. M.K. Evans, Oxford; Malden: Blackwell Publishers, corp. 2003.
6. Statistical forecasting:notes on regression and time series analysis. R. Nau, Duke University, http://people.duke.edu/~rnau/411home.htm

Remarks:
oferta ERASMUS

Quantitative indicators describing the module:	
Estimated total number of student work hours (contact and own work) necessary to achieve the learning outcomes assumed for the module - on this basis, complete the ECTS field:	**98/0**
The total number of ECTS points which the student receives in module requiring direct participation of academic teachers or other persons:	**1.36/0 ECTS**

Table of compliance of the directional learning outcomes with the effects of the module

Outcome category	Learning outcomes for module:	Reference to effects for the study program for the direction of study	The impact of classes on the directional effect*)
Knowledge	1. The student knows methods and techniques of analysis and forecasting of economic and business processes	EK2_KW03	3
Skills	2. The student is able to choose the appropriate forecasting method to empirical data and to compute a forecast on its basis.	EK2_KU01	3
	3. The student is able to assess the quality of the prognostic model and assess the feasibility of estimates and forecasts in the light of theoretical and empirical premises.	EK2_KU02	3
Competences	4. The student is ready to solve analytical and prognostic problems necessary in making economic decisions.	EK2_KK01	2

*) 3 - advanced and detailed, 2 - significant, 1 - basic