STUDY MODULE DESCRIPTION FORM

Name of the module/subject	Code
Economic Forecasting	**1011104461011136781**

Field of study	Profile of study (general academic, practical)	Year /Semester
Logistics - Part-time studies - First-cycle	**general academic**	**3 / 6**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
-	**Polish**	**elective**

Cycle of study:	Form of study (full-time,part-time)
First-cycle studies	**part-time**

No. of hours	No. of credits
Lecture: **16** Classes: **-** Laboratory: **-** Project/seminars: **-**	**3**

Status of the course in the study program (Basic, major, other)	(university-wide, from another field)
other	**from field**

Education areas and fields of science and art	ECTS distribution (number and %)
social sciences	**3 100%**
Economics	**3 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Student knows economics terms and laws.
2	**Skills**	Student can use computer ane Excel.
3	**Social competencies**	Student works individually and in team.

Assumptions and objectives of the course:

1. Aquiring knowledge about forecasting theory and time series econometrics.
2. Forming skills of simulating and forecasting of an economic variable.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Student knows forecasting theory terms (forecast, simulation, forecasting process, error, accuracy). - [K1A_W04]
2. Knows models of time series. - [K1A_W04]
3. Knows tests of statistical significancy. - [K1A_W04]
4. Knows forecasting laws and forecast accuracy measures. - [K1A_W04]
5. Knows relation between estimated forecast error and stock quantity for a given level of demand realisation - [K1A_W26]

Skills:

1. Student can use econometric modeling and forecasting in logistics. - [K1A_U05]
2. Can estimate a model, also using Excel and GRETL. - [K1A_U07]
3. Assesses statistical significancy and fitness to data. - [K1A_U09]
4. Can estimate error of forecast ex ante and ex post. - [K1A_U09]
5. Matches a model to empirical data and logistics theory. - [K!A_U15]

Social competencies:

1. Student is concious about forecasting role and meaning in logistics. - [K1A_K01]
2. Is ready to work in forecasting field projects and teams. - [K1A_K03]

Assessment methods of study outcomes
Forming mark on basis of questions about curent themes. Summary mark (pass)on basis of written test with tasks and theoretical questions.

Course description
1. Forecasting theory. Terms, forecast, simulation, forecasting process, error, accuracy. 2. Forecasting software. Functionality and examples. 3. Analysis of time series and choice of an appropriate model. 4. Stationary series forecasting: average, autoregression, seasonal fixed effects. 5. Trends. Linear and non-linear. Residuals autocorrelation. 6. Smoothing models: Brown's, Holt's and Winters'. 7. Simulation of a level of stocks with a given level of demand satisfing. Dydactical methods: lectura with analysis of time series cases.

Basic bibliography:

1. Dittmann P., Prognozowanie w przedsiębiorstwie, PWE, Warszawa 2003.
2. Kufel T., Ekonometria. Rozwiązywanie problemów z wykorzystaniem programu GRETL, WN PWN, Warszawa 2011.
3. Prognozowanie gospodarcze. Metody i zastosowania, Cieślak M. (red.), WN PWN, Warszawa 2002.
4. Witkowska D., Podstawy ekonometrii i teorii prognozowania, Oficyna Ekonomiczna, Kraków 2006.

Additional bibliography:

1. Borkowski B., Dudek H., Szczesny W., Ekonometria. Wybrane zagadnienia, WN PWN, Warszawa 2004.
2. Brzęczek T., Ocena efektów dywersyfikacji portfela produktowego w zakresie ryzyka sprzedaży całkowitej i trafności jej prognoz, Ekonometria I (55) 2017, s. 112-124.
3. Kufel T., Ekonometryczna analiza cykliczności procesów gospodarczych o wysokiej częstotliwości obserwowania, WN UMK w Toruniu, Toruń 2010.

Result of average student's workload

Activity	**Time (working hours)**
1. Lectures	16
2. Consultations	10
3. Preparing to lectures and pass test	20

Student's workload

Source of workload	**hours**	**ECTS**
Total workload	46	3
Contact hours	26	2
Practical activities	0	0