I. GENERAL INFORMATION ABOUT THE COURSE

Economic Forecasting

Name of the organisational unit offering the programme:	The University College of Tourism and Ecology in Sucha Beskidzka Wyższa Szkoła Turystyki i Ekologii w Suchej Beskidzkiej
Name of the field of study and level of education:	Management – First degree (bachelor's)
Profile of education:	Practical
Major:	Not applicable
Type of module: (please specify as appropriate)	Basic / Core / Professionally oriented
Year / Semester:	II / 4
Prerequisites (resulting from the sequence of courses):	Fundamentals of Management, Fundamentals of Economics

II. FORMS OF CLASSES AND NUMBER OF HOURS

	Lecture	Exercises	Seminar discussion	Laboratory	Workshop	Project	Seminar	Internship	Examination / Assessment	Total number of hours
Full-time studies	14			28		8			3	53
Part-time studies	8			16		6			3	33

III. TEACHING METHODS

Forms of classes	Teaching methods
Lecture / Workshop / Project:	Lectures supported by PowerPoint presentations, including examples of the application of forecasting methods in enterprise management and its macroeconomic environment. Use of the SPSS statistical package to demonstrate the practical implementation of analyses and the construction of forecasts based on time series. Practical classes supported by computer-assisted techniques, particularly the use of Excel and Gretl statistical software, as well as the project method.

IV. LEARNING OUTCOMES FOR THE COURSE WITH REFERENCE TO THE PROGRAMME AND DISCIPLINARY LEARNING OUTCOMES

No.	Description of the learning outcome for the course	Reference to the programme learning outcome
Knowledge:		

P_W01	The student has knowledge of concepts in the field of forecasting.	K1P_W02 K1P_W10
P_W02	The student possesses knowledge of selected procedures, methods, and techniques of forecasting and simulation, as well as their conditions and limitations.	K1P_W10
P_W03	The student knows the requirements and constraints of forecasts in the management process of an enterprise or organisation, as well as in the context of macroeconomic forecasting.	K1P_W02 K1P_W10
Skills:		
P_U01	The student is able to assess the quality of data used in the forecasting process, including the accuracy of measurement and the use of appropriate measurement scales, and is able to collect relevant data.	K1P_U07 K1P_U06 K1P_U07
P_U02	The student possesses the ability to forecast the level and dynamics of selected socio-economic parameters and indicators.	K1P_U01 K1P_U06 K1P_U07
P_U03	The student is able to use appropriate methods, tools, and basic statistical software for the process of forecasting and evaluating the quality of forecasts.	K1P_U01 K1P_U06 K1P_U07
Social competences:		
P_K01	The student is ready to apply forecasting skills to analyse the effectiveness of management processes.	K1P_K01 K1P_K02

V. COURSE CONTENT

No.	Lecture:	Reference to the programme learning outcome
W1	Forecasting – concepts, the role of forecasts in economic management, stages of forecasting, types of forecasts, forecasting standards, scenario and variant forecasting.	P_W01, P_W02, P_W03, P_U01
W2	Elements of statistics used in the forecasting process (W2, W3, W4, W5): random variables, distributions in samples and populations, measures of central tendency and dispersion.	P_W01, P_W02, P_W03, P_U01 P_U02
W3	Testing statistical hypotheses, distribution of test statistics.	P_W01, P_W02, P_W03, P_U01, P_U02, P_U03
W4	Testing relationships between quantitative variables.	P_W01, P_W02, P_W03, P_U01, P_U02, P_U03
W5	Verification of econometric models for forecasting purposes: assumptions of the classical least squares method, their implications and significance in forecasting.	P_W01, P_W02, P_W03, P_U01, P_U02, P_U03

W6	Forecasting errors: ex ante and ex post errors, absolute and relative errors. Forecast acceptability and horizon.	P_W01, P_W02 P_W03, P_U01, P_U02
W7	Building forecasts using a single-equation econometric model – example of simple regression: identifying the research problem, formulating a hypothesis, specifying the model, estimating model parameters, verifying structure and validity in the context of building reliable forecasts.	P_W01, P_W02, P_W03, P_U01, P_U02, P_U03, P_K01
W8	Time series analysis and its use in forecasting – adaptive methods including time series smoothing, analytical methods including trend function forecasting, seasonal and cyclical fluctuations.	P_W01, P_W02, P_W03, P_U01, P_U02, P_U03, P_K01
W9	Heuristic and analogue forecasting: analogue methods, Delphi method, market testing.	P_W01, P_W02, P_W03, P_U01, P_U02, P_W03, P_K01
W10	Forecasting and selected aspects of simulation.	P_W01, P_W02, P_W03, P_U01, P_U02
No.	Laboratory / Project:	Reference to the programme learning outcome
T1	Principles of forecasting and measures of forecast accuracy.	P_U01, P_U02
		P_U03
T2	Forecasting using a single-equation linear regression model – estimation of parameters using the KMNK method, full substantive and formal-statistical verification, including causality issues and model applicability assessment, with the use of Excel and Gretl software.	P_U01, P_U02, P_U03,P_K01
T3	Scenario-based forecast development based on a constructed linear single-equation regression model and determination of the probability of its realisation using Excel and Gretl.	P_U01, P_U02, P_U03,P_K01
T4	Forecasting using trend models and trend models with seasonal fluctuations, including estimation of seasonal variations using the seasonality index method and Klein's method.	P_U01, P_U02, P_U03, P_K01
T5	Application of the moving average method in building forecasts using Excel and Gretl.	P_U01, P_U02, P_U03
T6	Forecasting by analogy.	P_U01, P_U02, P_U03
T7	Simulation game.	P_U01, P_U02, P_U03, P_K01

VI. METHODS OF VERIFYING LEARNING OUTCOMES

Learning outcomes	Verification method	Form of classes in which the learning outcome is verified
Knowledge:		

P_W01	Oral defence of a group project in small groups – up to five participants.	W1, W2, W3, W4, W5, W6, W7, W8, W9, W10
P_W02	Participation and active involvement during practical classes and, as above, defence of a project focused on practical forecasting based on real data from a company or macroeconomic environment, meeting full academic work requirements.	W1, W2, W3, W4, W5, W6, W7, W8, W9, W10
P_W03	Project development and oral defence.	W1, W2, W3, W4, W5, W6, W7, W8, W9, W10
Skills:		
P_U01	Project development and oral defence, active participation in classes and consultations, observation of task performance.	W1 - W10, T1-T7
P_U02	Project development and defence, observation of task performance.	W2-W10, T1-T7
P_U03	Project development and defence, observation of task performance.	W3, W4, W7, W8, W9, T1-T7
Social competences:		
P_K01	Observation and evaluation of the student's participation and engagement during classes.	W7, W8, W9, T1-T7

Final (summative) assessment:

The final grade consists of the evaluation of practical task performance and class participation (1/4) as well as the grade from the final examination in the form of project preparation and its oral defence (3/4).

VII. ASSESSMENT CRITERIA FOR ACHIEVED LEARNING OUTCOMES

Learning outcomes	**Fail (2.0)** The student does not know, does not understand, is unable to, or is not ready to:	**Satisfactory range (3.0–3.5)** The student knows, understands, is able to, and is ready to:	**Good range (4.0–4.5)** The student knows, understands, is able to, and is ready to:	**Very good (5.0)** The student knows, understands, is able to, and is ready to:
P_W01	Define the basic concepts and types of forecasts.	Present very limited knowledge of basic concepts and types of forecasts.	Present knowledge of basic concepts and types of forecasts.	Present detailed knowledge of the concepts and types of forecasts.
P_W02	Demonstrate knowledge of elementary procedures, methods, and techniques of forecasting and simulation, or their conditions.	Present very limited knowledge of elementary procedures, methods, and techniques of forecasting.	Demonstrate knowledge of elementary procedures, methods, and techniques of forecasting.	Demonstrate detailed knowledge of elementary procedures, methods, and techniques of forecasting.
P_W03	Describe the fundamental conditions of forecast validity.	Demonstrate very limited knowledge concerning the admissibility of forecasts.	Correctly present knowledge concerning the admissibility of forecasts.	Present detailed and comprehensive knowledge concerning the admissibility of forecasts.
P_U01	Assess data quality or the accuracy of measurement, nor demonstrate awareness of data collection methods.	To a limited extent, assess the quality of data, the accuracy of measurement, and methods of data collection.	Assess data quality and accuracy of measurement, and demonstrate awareness of methods for data collection and presentation.	Precisely assess data quality, accuracy of measurement, and methods of data collection and presentation.

P_U02	Forecast selected socio-economic parameters and indicators.	Produce forecasts using only a few selected methods introduced in the course.	Produce forecasts using the methods introduced within the course curriculum.	Produce forecasts using the methods introduced in the course and determine the probability of their realisation.
P_U03	Apply appropriate methods, tools, and basic statistical software in the forecasting process.	To a limited extent, apply appropriate methods, tools, and basic statistical software in the forecasting process.	Apply appropriate methods, tools, and basic statistical software in the forecasting process.	Apply appropriate methods, tools, and statistical packages in the forecasting process and draw well-reasoned conclusions.
P_K01	Use forecasting skills to analyse the effectiveness of management processes.	Use forecasting skills to a limited extent for analysing the effectiveness of management processes.	Use forecasting skills to analyse the effectiveness of management processes.	Use forecasting skills effectively to analyse the efficiency of management processes.

VIII. STUDENT WORKLOAD – HOURS AND ECTS BALANCE

Type of ECTS activity	Student workload	
	Full-time studies	Part-time studies
Participation in teaching activities (lectures, exercises, conversation classes, projects, laboratories, workshops, seminars) – TOTAL number of hours – from section II	50h	30h
Examinations / Assessments	3h	3h
Participation in consultations	6h	4h
Project / Essay / Case study / Practical task	8h	8h
Independent preparation for classes	27h	49h
Preparation for course assessments	6h	6h
Total student workload (25 hours = 1 ECTS) TOTAL hours / ECTS	100 h / 4 ECTS	100 h / 4 ECTS
Student workload within classes involving direct contact with the lecturer	59 h / 3 ECTS	37 h /1,5 ECTS
Student workload within classes of a practical nature	-/-	-/-
Student workload within classes related to professional training	50 h / 2 ECTS	50 h / 2 ECTS
Student workload within classes related to research preparation	-/-	-/-

IX. COURSE LITERATURE AND OTHER TEACHING MATERIALS

Basic literature:

- Guzik Bogusław, Wstęp do teorii prognozowania i symulacji, Wydawnictwo Akademii Ekonomicznej w Poznaniu, Poznań 2008.
- Acedański Jan, Hadaś-Dyduch Monika, Szkutnik Włodzimierz, Prognozowanie zjawisk ekonomicznych i finansowych, część 1 Prognozowanie z Excelem, Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach, Katowice 2006.

Supplementary literature:

-Maciąg Artur, Pietroń Roman, Kukla Sławomir, Prognozowanie i symulacja w przedsiębiorstwie, Polski Wydawnictwo Ekonomiczne, Warszawa 2013.

Other teaching materials:
Additional materials from the lecturer.