

Subject card

Subject name and code	International & Public Finance, PG_00178630						
Field of study	International & Public Finance						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		English English		
Semester of study	4		ECTS credits		7.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Corporate Finance -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Anna Siemionek-Lepczyńska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	45.0	30.0	0.0	0.0	0.0	75
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	75		4.0		96.0	175
Subject objectives	The course will provide students with a knowledge of international finance by exploring those aspects of corporate finance that are unique to the international environment. Emphasis will be placed on the additional risks facing companies that operate internationally and techniques that may be used to manage these risks. The course will cover the theoretical underpinnings of financial decision-making and discussion of company's real-world activities.						
	instruments and identify the types of risks that they may be used to hedge against.						
	Students should be able to gain knowledge and an insight into the spectrum of public finance.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[FiRL3_W03] The student knows and understands, to an advanced degree - from the perspective of finance and accounting - the internal and external relations of institutions and organizations with particular emphasis on financial security systems.	The student identifies relationships between national and international financial institutions, classifies public finance sources by administrative level, explains the role of global financial institutions in economic stability. The student distinguishes core elements of fiscal policy relevant to public finance.	[SW2] prezentacja/projekt/referat/ raport
	[FiRL3_U06] The student can use and integrate knowledge from management and quality sciences, as well as economics and finance, to resolve dilemmas and solve complex problems that arise in professional work in finance and accounting.	The student is able to apply and combine knowledge from management, quality sciences, economics, and finance to address challenges and solve complex issues encountered in professional finance and accounting practice.	[SU4] test/egzamin - ustny lub pisemny
	[FiRL3_W02] The student has advanced knowledge and understanding of the functioning of the domestic and international financial market and financial instruments and institutions.	The student is capable of identifying, analyzing, and developing appropriate solutions to issues in the field of finance and accounting.	[SW2] prezentacja/projekt/referat/ raport
Subject contents	<ol style="list-style-type: none">1. Explain the mechanics of the foreign exchange market and interpret exchange rate quotations.2. Identify and evaluate arbitrage opportunities in the FX market.3. Analyze how interest rates and inflation affect spot and forward exchange rates.4. Apply theories such as Interest Rate Parity, Purchasing Power Parity, the Fisher Effect, and the International Fisher Effect to real-world scenarios.5. Distinguish between covered and uncovered interest arbitrage and calculate potential profits.6. Assess the foreign exchange risks faced.7. Foundations of the public sector.8. Fiscal functions and institutions.9. Expenditure structure and policy.10. Revenue structure and policy.11. General state budget and economics of the public debt.		
Prerequisites and co-requisites	Fundamentals of economic theory and financial analysis		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	exam	51.0%	50.0%
	project	51.0%	50.0%
Recommended reading	Basic literature	<ol style="list-style-type: none">1. Madura, Jeff & Fox, Roland, International Financial Management, 3rd edition, Cengage Learning, 2014.2. Eiteman, D K, Stonehill, A I, & Moffet, M H, Multinational Business Finance, 14th edition, Pearson Education, 2016.3. R. Musgrave, P. B. Musgrave, Public Finance in theory and practice, McGraw Hill Education, 2018.4. Public Finance and Public Policy, Fifth Edition ©2020 Jonathan Grube	
	Supplementary literature	<ol style="list-style-type: none">1. Multinational Finance, 5th edition, Pearson Education, 2004.2. Holley H. Ulbrich, Public Finance in Theory and Practice Second Edition, Routledge, 2013.3. Harvey S. Rosen, Ted Gayer, Public Finance, Mcgraw-Hill Publ.Comp. 2014 .	
	eResources addresses		
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none">1. Explain the concept of balance of payments (BoP). Identify and describe its main components and discuss how persistent BoP deficits or surpluses can affect a country's economy.2. Discuss the role of public goods in an economy. Why are public goods typically provided by the government rather than private markets? Provide examples to support your explanation.		
Work placement	Not applicable		

Subject card

Subject name and code	Financial Statement Analysis, PG_00178634						
Field of study	Financial Statement Analysis						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		English		
Semester of study	4		ECTS credits		6.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Corporate Finance -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		mgr inż. Alicja Grzenkowicz				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	45.0	0.0	0.0	0.0	60
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	60		4.0		86.0	150
Subject objectives	The aim of the course is to provide students with the knowledge and skills necessary to analyze, calculate, and interpret values and their changes within various components of financial statements and financial ratios, as well as to compare these values against economy-wide and industry-specific standards.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[FiRL3_U02] The student can identify, analyze or design adequate solutions to problems in finance and accounting.	The student detects financial anomalies and key trends in financial statements using methods such as comparative, ratio, and cash flow analysis, interprets these findings to diagnose financial problems, and recommends corrective actions or strategic decisions to improve enterprise performance.	[SU2] prezentacja/projekt/referat/raport [SU4] test/egzamin - ustny lub pisemny
	[FiRL3_U04] The student is able—from the perspective of finance and accounting—to correctly select and properly apply methods and tools from the fields of management and quality sciences, economics, and finance to analyse and forecast economic processes and evaluate economic phenomena.	The student is able—from the perspective of finance and accounting—to select and apply appropriate methods and tools from management, quality sciences, economics, and finance—including financial statement analysis, market and competition models, and risk management techniques—to analyze, evaluate, and forecast economic processes and business performance.	[SU2] prezentacja/projekt/referat/raport [SU4] test/egzamin - ustny lub pisemny
	[FiRL3_W08] The student has advanced knowledge and understanding of the interrelationship of accounting and finance with business in a changing environment and the accompanying contemporary challenges and dilemmas in this context.	The student can explain the purpose and users of financial statement analysis, describes key financial analysis methods (such as ratio, trend, and cash flow analysis), characterizes how financial information supports strategic decision-making in changing business environments, and identifies contemporary challenges in interpreting financial data and reports.	[SW4] test/egzamin - ustny lub pisemny [SW1] wypowiedź ustna/rozmowa/dyskusja
	[FiRL3_W06] To an advanced degree, the student knows and understands the objectives, essence, nature and interrelationships of financial processes, ways of recording them, and the principles of rational decision-making and implementation of changes in this area.	The student explains the objectives, nature, and interrelations of financial processes within a company, understands methods of recording and presenting financial data in financial statements, and recognizes their role in rational financial decision-making and business performance evaluation.	[SW4] test/egzamin - ustny lub pisemny [SW1] wypowiedź ustna/rozmowa/dyskusja

Subject contents	<div>1. Introduction to Financial Statement Analysis</div> <div>2. Methods of Financial Analysis</div> <div>3. Sources of Financial Information</div> <div>4. Preliminary Analysis of Financial Statements: identification of key trends and anomalies</div> <div>5. Ratio Analysis: Principles and Interpretation<ul style="list-style-type: none">Activity ratios (e.g., asset turnover, inventory turnover)Liquidity ratios (e.g., current ratio, quick ratio)Solvency ratios (e.g., debt ratio, interest coverage)Profitability ratios (e.g., net margin, ROA, ROE)</div> <div>6. Cash Flow Analysis</div> <div>7. DuPont Analysis</div> <div>8. Integrated Interpretation and Forecasting<ul style="list-style-type: none">Usage of financial analysis for forecasting and strategic planningIdentifying financial risks and performance trends</div>		
Prerequisites and co-requisites	Fundamentals of financial accounting		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Group project	51.0%	25.0%
	Written test	51.0%	25.0%
	Written exam	51.0%	50.0%
Recommended reading	Basic literature	<div>1. Robinson T.R., Henry E., Pirie W.L., Broihahn M.A., Cope A.T., International Financial Statement Analysis, Wiley, 2015.</div> <div>2. Fridson M.S., Alvarez F., Financial Statement Analysis: A Practitioner's Guide, Wiley Finance, 2011.</div>	
	Supplementary literature	<div>1. Ross S.A., Westerfield R.W., Jaffe J., Jordan B.D.: Modern Financial Management, McGraw-Hill Irwin, 2008</div> <div>2. O'Regan P.: Financial Information Analysis, John Wiley & Sons, 2001</div> <div>3. Penman S.H.: Financial Statement Analysis and Security Valuation, McGraw-Hill Irwin, 2001</div>	
	eResources addresses		
Example issues/ example questions/ tasks being completed	<div>What are the strengths and weaknesses of a company based on its financial ratios?</div> <div>How should the operating profit margin be interpreted compared to the industry average?</div> <div>Calculate and interpret profitability, liquidity, leverage, and efficiency ratios for company XYZ. Compare the financial performance of two companies in the same industry and provide an investment recommendation.</div>		
Work placement	Not applicable		

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Subject card

Subject name and code	Mathematical Statistics, PG_00178635						
Field of study	Mathematical Statistics						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		6.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Statistics -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Anna Gierusz-Matkowska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	0.0	0.0	0.0	60
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	60		4.0		86.0	150
Subject objectives	Learn basic methods of statistical inference. Learn how to estimate population parameters, how to calculate and interpret confidence intervals, perform hypothesis testing.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[FiRL3_U03] The student can obtain data and verify its accuracy from appropriately selected sources and use these data to analyse and evaluate economic processes and phenomena in management and quality sciences, economics and finance.	Student draws simple random samples from appropriate data sets and uses these samples to draw inferences	[SU4] test/egzamin - ustny lub pisemny
	[FiRL3_U02] The student can identify, analyze or design adequate solutions to problems in finance and accounting.	Student selects and carries out appropriate statistical test to draw inferences about probability distributions of financial and investment phenomena	[SU4] test/egzamin - ustny lub pisemny
	[FiRL3_U01] The student can analyze and interpret socio-economic processes and phenomena—from the finance and accounting perspective—using knowledge and tools from management, quality sciences, economics, and finance.	Student uses estimation and hypothesis testing to draw inferences in financial and investment problems	[SU4] test/egzamin - ustny lub pisemny
	[FiRL3_W05] To an advanced degree, the student knows and understands the tools and techniques for obtaining, compiling, and analyzing the data necessary to assess the financial situation of various entities in management, quality sciences, economics, and finance.	Student defines estimators, describes their properties and outlines the process of testing statistical hypothesis related to financial and investment phenomena	[SW4] test/egzamin - ustny lub pisemny
Subject contents	<p>define simple random sampling and a sampling distribution; explain sampling error; distinguish between simple random and stratified random sampling; distinguish between time- series and cross- sectional data; explain the central limit theorem and its importance; calculate and interpret the standard error of the sample mean; identify and describe desirable properties of an estimator; distinguish between a point estimate and a confidence interval estimate of a population parameter; describe properties of Students t-distribution and calculate and interpret its degrees of freedom; calculate and interpret a confidence interval for a population mean, given a normal distribution with 1) a known population variance, 2) an unknown population variance, or 3) an unknown variance and a large sample size; describe the issues regarding selection of the appropriate sample size, data--mining bias, sample selection bias, survivorship bias, look- ahead bias, and time- period bias. define a hypothesis, describe the steps of hypothesis testing, and describe and interpret the choice of the null and alternative hypotheses; distinguish between one- tailed and two- tailed tests of hypotheses; explain a test statistic, Type I and Type II errors, a significance level, and how significance levels are used in hypothesis testing; explain a decision rule, the power of a test, and the relation between confidence intervals and hypothesis tests; distinguish between a statistical result and an economically meaningful result; explain and interpret the p-value as it relates to hypothesis testing; identify the appropriate test statistic and interpret the results for a hypothesis test concerning the population mean of both large and small samples when the population is normally or approximately distributed and the variance is 1) known or 2) unknown; identify the appropriate test statistic and interpret the results for a hypothesis test concerning the equality of the population means of two at least approximately normally distributed populations, based on independent random samples with 1) equal or 2) unequal assumed variances; identify the appropriate test statistic and interpret the results for a hypothesis test concerning the mean difference of two normally distributed populations; identify the appropriate test statistic and interpret the results for a hypothesis test concerning 1) the variance of a normally distributed population, and 2) the equality of the variances of two normally distributed populations based on two independent random samples; distinguish between parametric and nonparametric tests and describe situations in which the use of nonparametric tests may be appropriate.</p>		
Prerequisites and co-requisites	Knowledge from two subjects: 1. Descriptive Statistics 2. Probability concepts		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	end term written assessment	51.0%	50.0%
	mid term written assessment	51.0%	50.0%

Recommended reading	Basic literature	<p>A. Aczel, J. Sounderpandian Complete Business Statistics with Student CD, The McGraw-Hill/Irwin Series 2009</p> <p>E. Matanda, M. Mawere, Research methods and statistics for crosscutting research: handbook for multidisciplinary research, Madrid: Langaa RPCIG 2022</p>
	Supplementary literature	<p>W. Mendenhall, D.D. Wackerly, Mathematical Statistics with Applications, Thomson Learning (7th edition), 2007;</p> <p>J.E. Freund, R.E. Walpole, Mathematical Statistics, Prentice-Hall, (4th edition), 1987</p> <p>Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, David E. Runkle, Mark J. P. Anson, Quantitative Investment Analysis, 3rd Edition, Wiley and Sons 2016</p> <p>Ken Black, Applied Business Statistics: Making Better business Decision, John Wiley and Sons 2011</p> <p>Richard A. Johnson, Gouri K. Bhattacharyya, Statistics: Principles and Methods, John Wiley and Sons, 2011</p> <p>David Ray Anderson, Dennis J. Sweeney, Thomas Arthur Williams, Thomas A. Williams, Statistics for business and economics, Cengage Learning, 2010</p> <p>Gierusz A., Application of deferred annuities in an occupational pension scheme. W: Pensions today - economic, managerial, and social issues, Chybalski Filip (red.), Marcinkiewicz Edyta (red.), Wydawnictwo Politechniki Łódzkiej, Łódź 2021</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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Subject card

Subject name and code	Proseminar, PG_00178639						
Field of study	Proseminar						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Subject group related to scientific research in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		English		
Semester of study	4		ECTS credits		1.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Statistics -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Arkadiusz Kozłowski				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	15		1.0		9.0	25
Subject objectives	The course aims to prepare students for conducting research and writing their diploma thesis.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[FiRL3_U01] The student can analyze and interpret socio-economic processes and phenomena—from the finance and accounting perspective—using knowledge and tools from management, quality sciences, economics, and finance.	The student designs and conducts research, including defining objectives, determining research methods, and collecting data.	[SU2] prezentacja/projekt/referat/raport
	[FiRL3_W01] The student has advanced knowledge and understanding of the nature and evolution of management, quality, economics, and finance theories and their place in the social sciences system, particularly from the perspectives of finance and accounting.	The student identifies aspects of financial institutions operations that can be subject of scientific research.	[SW2] prezentacja/projekt/referat/raport
	[FiRL3_K01] The student is prepared to acquire the knowledge necessary to tackle cognitive and practical problems, particularly in finance and accounting. Additionally, the students are ready to assess their current knowledge and the information they receive critically and consult with experts if they have difficulties solving the problem independently.	The student recognises strengths and weaknesses of their research and indicates ways to improve it.	[SK2] prezentacja/projekt/referat/raport
	[FiRL3_U10] The student can convey information clearly and effectively, presenting their opinions using finance and accounting terminology across various media.	The student conveys research findings using clear and effective language and terminology.	[SU2] prezentacja/projekt/referat/raport
Subject contents	1. Managerial value of business research. Types of research. 2. Stages in the research process. Data collection, the role of secondary and primary data. 3. Sampling design process: definition of the population, sampling frame, random and non-random sampling techniques. 4. Questionnaire design. 5. Modes of data collection. 6. Sources of errors in survey research. 7. Communicating research results. 8. Preparing diploma thesis (defining objectives and plan of the thesis). 9. References in scientific texts. 10. Using text editor (MS Word).		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Assignment - conducting research and presenting results	51.0%	100.0%

Recommended reading	Basic literature	<p>Malhotra N.K., <i>Marketing research, An applied orientation</i>, Pearson Education, New Jersey 2010, 6th ed.</p> <p>Saunders M.N.K., Lewis P., and Thornhill A., <i>Research methods for business students</i>, Pearson, Harlow 2023, 9th ed.</p> <p>Zikmund W.G., <i>Business research methods</i>, Thomson/South-Western, Mason, OH 2000.</p>
	Supplementary literature	<p>Sharma J.K., <i>Business Statistics</i>, Vikas, India 2020, fifth edition.</p> <p>Kozłowski A., and Szreder M., <i>Informacje spoza próby w badaniach statystycznych</i>, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2020.</p> <p>Szreder M., and Kozłowski A., <i>Wnioskowanie na podstawie prób losowych i nielosowych</i>, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2024.</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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Subject card

Subject name and code	Econometrics & Forecasting, PG_00178640						
Field of study	Econometrics & Forecasting						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study Optional subject group Subject group related to scientific research in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		English		
Semester of study	4		ECTS credits		7.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Econometrics -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Sabina Nowak				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	15.0	0.0	0.0	75
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	75		4.0		96.0	175
Subject objectives	This course is divided into two parts. First, it introduces students to econometric methods that are essential for those pursuing a career in finance. Second, it covers selected forecasting techniques applicable to economic decision-making scenarios.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[FiRL3_U04] The student is able—from the perspective of finance and accounting—to correctly select and properly apply methods and tools from the fields of management and quality sciences, economics, and finance to analyse and forecast economic processes and evaluate economic phenomena.	The student specifies, estimates, and verifies econometric models describing phenomena related to the financial market and corporate finance, makes forecasts on their basis, and evaluates the correctness of the obtained forecasts.	[SU2] prezentacja/projekt/referat/raport [SU5] realizacja zadania problemowego
	[FiRL3_W02] The student has advanced knowledge and understanding of the functioning of the domestic and international financial market and financial instruments and institutions.	The student identifies the principles of the financial market and its institutions and recognizes and classifies financial instruments.	[SW4] test/egzamin - ustny lub pisemny [SW2] prezentacja/projekt/referat/raport [SW5] realizacja zadania problemowego
	[FiRL3_U03] The student can obtain data and verify its accuracy from appropriately selected sources and use these data to analyse and evaluate economic processes and phenomena in management and quality sciences, economics and finance.	The student extracts financial data from databases, both cross-sectional and time-series—with different frequencies, recognize their correctness and use the data to build econometric models in the financial market and corporate finance.	[SU2] prezentacja/projekt/referat/raport [SU5] realizacja zadania problemowego
	[FiRL3_W05] To an advanced degree, the student knows and understands the tools and techniques for obtaining, compiling, and analyzing the data necessary to assess the financial situation of various entities in management, quality sciences, economics, and finance.	The student recognizes different types of financial data, classifies econometric models, and selects methods for estimation and verification.	[SW4] test/egzamin - ustny lub pisemny [SW2] prezentacja/projekt/referat/raport [SW5] realizacja zadania problemowego
Subject contents	<ol style="list-style-type: none"> 1. Introduction: Types and examples of financial data, returns and their properties. Econometric packages Gretl and EViews. 2. Classical linear regression model: examples of econometric models, regression versus correlation. Ordinary Least Squares method of estimation (OLS). OLS estimator and its properties. Application of the OLS estimator. 3. Goodness of fit. Testing the individual and joint significance of structural parameters. Confidence intervals. 4. Testing the classical linear regression model assumptions: homoscedasticity of the error term, lack of autocorrelation, and normality of distribution. Assessing the correctness of model specification. 5. Examples in finance: Can UK unit trust managers beat the market? The overreaction hypothesis in the UK stock market. CAPM. APT. Hedonic pricing models. 6. Univariate time series modelling: moving average process, autoregressive process, correlogram, autocorrelation function, partial autocorrelation function. ARMA process. Box-Jenkins approach. Stationarity. 7. Limited dependent variable models: linear probability, logit, and probit models. Example in finance: Are unsolicited credit ratings biased downwards? 8. Basic forecasting methods: Measures of accuracy. Exponential smoothing methods single exponential smoothing, Holt's linear exponential smoothing, Holt-Winters' method. 9. Forecasting using regression. 10. Forecasting ARMA/ARIMA processes. 		
Prerequisites and co-requisites	Students should possess elementary knowledge of mathematics for economics, descriptive and inferential statistics as well as practical data mining skills.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Exam: written test	51.0%	50.0%
	Credit: team project with presentation	51.0%	25.0%
	Credit: written test	51.0%	25.0%
Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. Brooks C., Introductory Econometrics for Finance, Cambridge University Press, 2008. 2. Dougherty C., Introduction to Econometric, Oxford University Press, 2008. 3. Makridakis S., S. C. Wheelright, R. J. Hyndman, Forecasting: Methods and Applications, 3rd edition, John Wiley & Sons, 1998. 	
	Supplementary literature	Mills T.C., Markellos R.N., The Econometric Modelling of Financial Time Series, Cambridge University Press, 2008	
	eResources addresses	Basic https://www.youtube.com/@chrisbrooks8555/videos?app=desktop - Chris Brooks YT channel (video lectures)	

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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Subject card

Subject name and code	English language 4, PG_00180213						
Field of study	English language 4						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		English		
Semester of study	4		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Zespół lektorów języka angielskiego -> Foreign Languages Centre -> Vice-Rector for Education -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		mgr Agnieszka Błaszowska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		2.0		18.0	50
Subject objectives	Developing student's language skills: speaking, reading, writing, listening so that they reflect learner's academic, professional and personal needs, as well as job market requirements						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[FiRL3_U08] The student can speak a foreign language at the B2 level of the Common European Framework of Reference for Languages, specifically in finance and accounting.		- can prepare typical written compositions in a foreign language on topics related to his/ her field of study - can prepare oral presentations in a foreign language concerning matters related to his/her field of study - has language skills corresponding to the requirements of level B2 of the Common European Framework of Reference for Languages		[SU1] wypowiedź ustna/rozmowa/ dyskusja [SU2] prezentacja/projekt/referat/ raport [SU3] opracowanie tekstowe/ praca pisemna [SU4] test/egzamin - ustny lub pisemny [SU5] realizacja zadania problemowego [SU6] demonstracja umiejętności praktycznych [SU8] obserwacja samodzielnej lub zespołowej pracy studenta		

Subject contents	I. Language and skills applicable to a specific job environment, in the context of the selected field of study, such as: <ul style="list-style-type: none">• telephoning• meetings• teamwork and team building• business correspondence• presentations• negotiations• recruitment• cross-cultural communication II. ESP and academic language components up to 30% or less of the course contents. III. Revision and consolidation of grammar rules		
Prerequisites and co-requisites	Suggested foreign language entry level: B1 or higher (according to CEFR)		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written and oral assignments, including student's self-study	51.0%	100.0%
Recommended reading	Basic literature	<ul style="list-style-type: none">• Dubicka, Iwonna, et al. Business Partner. Pearson, 2018. (levels B1+ to C1)• extra materials shared by the teacher, including those downloadable from cjo.ug.edu.pl/studenci	
	Supplementary literature	Internet resources, such as: - dictionaries, e.g. merriam-webster.com , dictionary.cambridge.org , pl.bab.la , diki.pl - TED, TEDed: ted.com , ed.ted.com - Coursera: coursera.org - Khan Academy: khanacademy.org - Web applications	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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Subject card

Subject name and code	German language 4, PG_00180214						
Field of study	German language 4						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		German German 90% Polish 10%		
Semester of study	4		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Zespół lektorów języków germańskich, romańskich i słowiańskich -> Foreign Languages Centre -> Vice-Rector for Education -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Anna Trynkler-Zalaszevska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		2.0		18.0	50
Subject objectives	Developing student's language skills: speaking, reading, writing, listening so that they reflect learner's academic, professional and personal needs, as well as job market requirements						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[FiRL3_U08] The student can speak a foreign language at the B2 level of the Common European Framework of Reference for Languages, specifically in finance and accounting.		- can prepare typical written compositions in a foreign language on topics related to his/ her field of study - can prepare oral presentations in a foreign language concerning matters related to his/her field of study - has language skills corresponding to the requirements of level B2 of the Common European Framework of Reference for Languages		[SU1] wypowiedź ustna/rozmowa/ dyskusja [SU2] prezentacja/projekt/referat/ raport [SU4] test/egzamin - ustny lub pisemny		

Subject contents	<div>1. Language and skills applicable to a specific job environment, in the context of the selected field of study, such as:<ul style="list-style-type: none">• telephoning• meetings• teamwork and team building• business correspondence• presentations• negotiations• recruitment• cross-cultural communication</div> <div>1. ESP and academic language components up to 30% or less of the course contents.</div> <div>2. Revision and consolidation of grammar rules.</div> <div>3. Any doubts related to the material covered in foreign language classes will also be discussed/ clarified during teacher's office hours for students</div>		
Prerequisites and co-requisites			
Assessment methods and criteria	<div>Subject passing criteria</div> <div>Written and oral assignments, including student's self-study</div>	<div>Passing threshold</div> <div>51.0%</div>	<div>Percentage of the final grade</div> <div>100.0%</div>
Recommended reading	<div>Basic literature</div> <div>Supplementary literature</div> <div>eResources addresses</div>	<div>Grigull, Ingrid, Geschäftliche Begegnungen, Schubert, 2024</div> <div>extra materials shared by the teacher</div>	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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Subject card

Subject name and code	Spanish language 4, PG_00180215						
Field of study	Spanish language 4						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Spanish Spanish 90% Polish 10%		
Semester of study	4		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Zespół lektorów języków germańskich, romańskich i słowiańskich -> Foreign Languages Centre -> Vice-Rector for Education -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		mgr Oliwia Grzegorzczuk				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		2.0		18.0	50
Subject objectives	Developing student's language skills: speaking, reading, writing, listening so that they reflect learner's academic, professional and personal needs, as well as job market requirements.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[FiRL3_U08] The student can speak a foreign language at the B2 level of the Common European Framework of Reference for Languages, specifically in finance and accounting.		The student is able to use a foreign language at the B2 level of the Common European Framework of Reference for Languages (CEFR) in the field of finance and accounting.		[SU1] wypowiedź ustna/rozmowa/ dyskusja [SU2] prezentacja/projekt/referat/ raport [SU3] opracowanie tekstowe/ praca pisemna [SU4] test/egzamin - ustny lub pisemny [SU5] realizacja zadania problemowego		
Subject contents	<div>1. Language and skills applicable to a specific job environment, in the context of the selected field of study, such as:</div> <div><ul style="list-style-type: none">• telephoning• meetings• teamwork and team building• business correspondence• presentations• negotiations• recruitment• cross-cultural communication</div> <div>2. ESP and academic language components up to 30% or less of the course contents.</div> <div>3. Revision and consolidation of grammar rules.</div> <div>4. Any doubts related to the material covered in foreign language classes will also be discussed / clarified during teachers office hours for students.</div>						

Prerequisites and co-requisites	Suggested foreign language entry level: B1 or higher (according to CEFR)		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	attendance	51.0%	15.0%
	tests/presentations/writings	51.0%	65.0%
	home assignments	51.0%	10.0%
	active class participation	51.0%	10.0%
Recommended reading	Basic literature	Tano, Marcelo Rubén, "Expertos Libro y Cuaderno digitales B2", Difusión, 2016.	
	Supplementary literature	"EMPRESA SIGLO XXI - LIBRO DEL ALUMNO" B2-C1, Edinumen, 2009. "Nuevo Espanol en marcha" , SGEL, 2019. Arriba, Editnos, 2018. Aula Internacional, Difusión, 2017. C. Romero Dueñas, Competencia gramatical en uso", Edelsa, 2015. Extra materials shared by the teacher.	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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