University of Gdańsk

Subject card

Subject name and code	Master Seminar 3, PG_00177501		
Field of study	Informatics and Econometrics		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
Education level	Master’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	5.0
Learning profile	academic	Assessment form	credit

Conducting unit	Department of Econometrics -> Faculty of Management -> Rector	
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Anna Zamojska
	Teachers	

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	0.0	35.0	35
	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	35	4.0	86.0	125

Subject objectives	Completing the writing of the thesis, proofreading the language and content, submitting the finished text and preparing for the defence.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[IiEMU2_U07] Students can prepare detailed written papers, presentations, and oral speeches on econometrics, informatics, or statistics issues.	The students develop in-depth analytical reports and prepare presentations and oral presentations on complex economic issues, using quantitative methods and analytical tools appropriate to a specialist in economic analysis.	[SU3] text preparation/written work
	[IiEMU2_U13] The student can formulate and verify hypotheses about simple research problems using advanced, structured knowledge and appropriately selected research methods in econometrics, informatics, or statistics.	The student formulates and tests hypotheses related to selected economic problems using appropriate econometric or statistical methods.	[SU3] text preparation/written work
	[IiEMU2_U04] Students can choose, develop, and analyze traditional or innovative models of complex economic and social phenomena to make informed decisions.	The student develops, selects, and interprets models describing complex economic and social phenomena, applying them to analyze and support decision-making processes.	[SU3] text preparation/written work
	[IiEMU2_K01] The student is ready to acquire and deepen the knowledge needed to solve cognitive and practical problems, in particular in the field of econometrics, informatics or statistics, as well as to evaluate the knowledge and the received content critically and to consult experts in the event of difficulties with solving the problem on their own.	The students independently expand their knowledge in data analysis, econometric modelling, and IT tools, and critically evaluate data sources and analysis results, consulting experts when faced with complex decision-making problems.	[SK3] text preparation/written work
	[IiEMU2_W05] The student possesses advanced knowledge and understanding of informatics, statistics, and econometrics techniques and tools used to acquire, process, or visualise data to aid in decision-making and verify research hypotheses.	The student applies advanced quantitative methods in the analysis of economic phenomena, including statistical and econometric techniques used for forecasting, dependency analysis, and data visualization in economics.	[SW3] text preparation/written work
	[IiEMU2_U10] The student is able to convey information transparently and effectively, adapting their communication to meet the needs of different audiences. They can clearly present their opinions and engage in debates using terminology from the fields of econometrics, informatics, or statistics, utilizing various media.	The student presents the results of quantitative analyses clearly and appropriately for the audience, using specialized terminology and various forms of communication.	[SU3] text preparation/written work

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prof. dr hab. Paweł Miłobędzki

The seminar focuses on the selected segments of the capital, money, and insurance markets. Participants are instructed on how to value assets (stocks, bonds, and derivatives), build optimal investment portfolios, assess the efficiency of banks, joint investments, and insurance companies, as well as forecast business cycles, exchange rates, and interest rates.

Dr Sabina Nowak

The seminar focuses on modelling and forecasting financial markets, covering i.e. the following topics:

- Analysis of stock market microstructure, including the rules of stock exchange trading, methods of price discovery, and examination of markets transparency, efficiency, and liquidity.
- Analysis of the impact of buy-sell imbalances on the stock price changes.
- Price-volume relationship.
- Information efficiency of capital markets.
- Market reactions to announcements based on event study methodology.
- Forecasting rates of return using time series data of different frequencies, including intraday data, and assessing the accuracy of the forecasts.
- Asset pricing based on factor models.
- Cointegration methods to investigate relationships among global financial markets.

Additionally, the seminar may address topics related to behavioral finance, particularly investor sentiment, as well as issues in corporate finance, such as dividend policy and the impact of board diversity on corporate performance. A strong emphasis is placed on data analysis and statistical and econometric methods.

dr hab. Anna Zamojska

The seminar is devoted to the functioning of selected areas of the economy (on a micro and macro scale) and the capital market. Participation in the workshop prepares you to undertake research in the following areas: modeling in economic studies of a single country or a selected group of countries, forecasting of phenomena occurring in economics and finance, modeling and forecasting of phenomena at the micro level, covering individual households or single persons or enterprises, evaluation of the effects of crises in various sectors of the financial market, assessment of the impact of climatic and geopolitical uncertainty, evaluation of public spending under the recommendations of the European Union.

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<tr><td>Prerequisites
and co-requisites</td><td></td></tr>
<tr><td>Assessment methods
and criteria</td><td>

Subject passing criteria	Passing threshold	Percentage of the final grade
Written work	51.0%	100.0%

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<tr><td>Recommended reading</td><td>

Basic literature	Siuda P., Wasylczyk P., Publikacje naukowe. Praktyczny poradnik dla studentów, doktorantów i nie tylko, PWN, Warszawa 2018
Supplementary literature	Węglińska M., Jak pisać pracę magisterską? Oficyna Wydawnicza Impuls, 2016
eResources addresses	

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Example issues/ example questions/ tasks being completed	**prof. dr hab. Paweł Miłobędzki** 1. The attractiveness of investing in publicly traded companies based on fundamental variables. 2. Using principal component analysis to assess the financial standing of companies from the food sector of the Warsaw Stock Exchange. 3. Value-at-Risk estimates for a portfolio of securities. 4. Information efficiency of the Warsaw Stock Exchange and its submarkets. 5. Price-volume relationship on the Warsaw Stock Exchange. 6. The impact of the split of shares listed on the Warsaw Stock Exchange on their prices. 7. Sector risk on the Warsaw Stock Exchange. 8. Integration of the Polish stock market with the stock markets of selected developed countries. 9. Valuation of futures contracts on WIG 20. 10. The profitability of investing in open-end investment funds in Poland. 11. Valuation of accounting units of open pension funds in Poland. 12. Evaluation of the efficiency of insurance companies (banks) in Poland based on DEA. 13. Analysis of the relationship between copper (aluminium, tin, zinc, silver) futures prices on the London Metal Exchange. 14. The term structure of interest rates on the interbank market in Poland (London interbank market). 15. Interest rate parity in Poland and selected developed countries. 16. Short-term economic forecast based on the term structure of interest rates. 17. Interdependence and contagion effects in the financial markets of Central and Eastern European countries. 18. Components of the bid-ask spread on the Warsaw Stock Exchange. 19. Are precious metals safe havens for Polish stocks and bonds? 20. OPEC or no OPEC? Who sets world oil prices? **Dr Sabina Nowak** 1. The crucial role of the trading organization in securities exchange efficiency: A global perspective. 2. A comparison of the microstructure of the primary market and alternative trading systems at the Warsaw Stock Exchange. 3. Exploring the relationship between stock price and trading volume in WIG companies. 4. The impact of dividend announcements on stock prices and trading volumes evidence from the Warsaw Stock Exchange. 5. Anomalies in the capital market: A comparison between mature and emerging markets. 6. Decoding the sources of share price changes in the banking sector using a model based on transaction indicators. 7. GARCH models for analyzing systematic risk. 8. The impact of gender parity on corporate performance in international markets. 9. The role of investor sentiment in shaping stock returns: A comparison between mature and emerging markets. 10. Examining the role of investor sentiment in mitigating exogenous shocks on stock prices. **dr hab. Anna Zamojska** 1. Construction of synthetic indicators of socio-economic development using multivariate analysis methods 2. Empirical verification of the hypothesis of informational efficiency of capital markets on the example of selected stock market indices. 3. Evaluation of the effectiveness of investment strategies using Sharpe, Treynor and Jensen's alpha indices. 4. Analysis of spillover effects between financial markets using conditional volatility models. 5. Impact of geopolitical uncertainty on volatility of capital markets - VAR and GARCH approaches. 6. Forecasting unemployment rates in selected EU countries using machine learning methods. 7. Assessment of the effects of the energy crisis on household consumption in Poland. 8. The impact of fiscal policy on the dynamics of economic growth in EU countries - analysis using panel models with lags. 9. Evaluation of support programs for startups in Poland using a counterfactual approach. 10. Relationships between the real estate and capital markets - the MIDAS-VAR approach.
Work placement	Not applicable

Document generated electronically. Does not require a seal or signature.