GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

| | | | |
|---|---|---|---|
| Subject name and code | FINANCIAL ECONOMETRICS, PG_00067643 | | |
| Field of study | Economic Analytics | | |
| Date of commencement of studies | October 2025 | Academic year of realisation of subject | 2026/2027 |
| Education level | second-cycle studies | Subject group | Obligatory subject group in the field of study<br>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 | 3 | ECTS credits | 3.0 |
| Learning profile | general academic profile | Assessment form | assessment |
| Conducting unit | Department Of Statistics And Econometrics -> Faculty Of Management And Economics -> Wydziały Politechniki Gdańskiej | | |
| Name and surname of lecturer (lecturers) | Subject supervisor | | |
| | Teachers | | |

**Lesson types and methods of instruction**

| Lesson type | Lecture | Tutorial | Laboratory | Project | Seminar | SUM |
|---|---|---|---|---|---|---|
| Number of study hours | 30.0 | 0.0 | 30.0 | 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 | 5.0 | 10.0 | 75 |

**Subject objectives**

Formulates complex models of the capital market stochastic processes using in-depth knowledge and problem solving techniques, in accordance with contemporary trends in the development of this research area

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [K7_W02] understands the significance and interrelationships of key components describing economic processes, drawing on in-depth knowledge aligned with major developmental trends in scientific disciplines related to the field of economic analytics. | analyzes stochastic processes in the financial market, interpreting their key components and their relationships, using modern scientific achievements | [SW1] Assessment of factual knowledge |
| [K7_U03] formulates research hypotheses and select appropriate methods for their verification using advanced it tools. | models stochastic processes in the capital market, selecting analytical methods and financial data appropriate to the formulated research problem | [SU3] Assessment of ability to use knowledge gained from the subject |

**Subject contents**

Stochastic processes in the financial market, basic characteristics, empirical examples
The process of obtaining financial data by institutions, sources of data acquisition, institutional limitations
The problem of sharing and distributing financial data by institutions, availability of financial data
Deterministic trend or stochastic trend - stationarity and unit root tests
Modeling stationary stochastic processes of the financial market
Modeling of non-stationary stochastic processes of the financial market
One-equation error correction model, cointegration modeling of stochastic processes
One-dimensional volatility models, models from the GARCH family, stochastic volatility (SV) models
Multi-equation models of stochastic VAR and SVAR processes in financial markets
Study of cointegration of stochastic processes
VECM error correction vector model
The problem of Granger causality
Multi-equation volatility models from the GARCH family
The problem of contagion in financial markets

**Prerequisites and co-requisites**

| | | | |
|---|---|---|---|
| Assessment methods and criteria | Subject passing criteria | Passing threshold | Percentage of the final grade |
| | Exam | 60.0% | 60.0% |
| | Test | 60.0% | 40.0% |
| Recommended reading | Basic literature | Enders W. (1995) Applied Econometric Time Series. Wiley | |
| | Supplementary literature | | |
| | eResources addresses | Adresy na platformie eNauczanie: | |
| Example issues/ example questions/ tasks being completed | | | |
| Work placement | Not applicable | | |

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