GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

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|---|---|---|---|
| Subject name and code | INSURANCE STATISTICS, PG_00068702 | | |
| Field of study | Economic Analytics | | |
| Date of commencement of studies | October 2025 | Academic year of realisation of subject | 2025/2026 |
| 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 | Part-time studies (on-line) | Mode of delivery | at the university |
| Year of study | 1 | Language of instruction | Polish |
| Semester of study | 2 | 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 | 8.0 | 0.0 | 16.0 | 0.0 | 0.0 | 24 |

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 | 24 | 4.0 | 47.0 | 75 |

**Subject objectives**

Explains the functioning of the insurance market by analyzing various insurance products, presenting and convincingly interpreting the results obtained

**Learning outcomes**

| Course outcome | Subject outcome | Method of verification |
|---|---|---|
| [K7_W06] knows and understands the principles of evaluating the reliability of utilized data, applying in-depth specialized knowledge in the field of economic analysis. | identifies reliable sources of information needed to analyze the insurance market by analyzing various risks using statistical tools and methods | [SW1] Assessment of factual knowledge |
| [K7_U04] is able to prepare and convincingly present the results of specialized analyses, providing in-depth interpretation during debates and meetings with various audiences. | analyzes insurance products based on historical and demographic data and presents the results in a convincing way along with professional interpretation | [SU3] Assessment of ability to use knowledge gained from the subject |

**Subject contents**

Elements of the calculus of probability especially used in insurance (conditional probability, total probability, Bayesian formula)
Probability distributions used in insurance risk assessment
Testing the fit of theoretical insurance risk distributions based on historical data
Calculation of net premiums in various insurance variants
Gross premium calculation
Life expectancy tables, their construction and application
Commutation functions and their application in the calculation of insurance premiums
Analysis of life insurance markets in Poland and in the world

**Prerequisites and co-requisites**

**Assessment methods and criteria**

| Subject passing criteria | Passing threshold | Percentage of the final grade |
|---|---|---|
| Test | 60.0% | 100.0% |

**Recommended reading**

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|---|---|
| Basic literature | Ubezpieczenia na życie. Teoria i praktyka, Eugeniusz Stroiński, Wydawnictwo Poltext z serii Ubezpieczenia, Warszawa 2004<br>Nowe zasady ubezpieczeń majątkowych i osobowych. Poradnik, T. Jakubowski, Warszawa 1991 |
| Supplementary literature | Podstawy ubezpieczeń, tom II produkty, pod redakcją Jana Monkiewicza, Wydawnictwo Poltext, seria: Ubezpieczenia, Warszawa 2005 (wydanie i - 2001) |

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|---|---|---|
| | eResources addresses | Adresy na platformie eNauczanie: |
| Example issues/ example questions/ tasks being completed | Problems in the theory of probability (using e.g. the Bayes formula)<br>Calculation of the net premium in various variants<br>Calculation of the net premium for various insurances<br>Application of commutation functions<br>Theoretical questions about the functioning of the insurance market in Poland and in the world | |
| Work placement | Not applicable | |

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