



Subject card

Subject name and code	INSURANCE STATISTICS, PG_00037086						
Field of study	Economic Analytics						
Date of commencement of studies	October 2021	Academic year of realisation of subject			2021/2022		
Education level	second-cycle 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	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Faculty of Management and Economics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Mariusz Kaszubowski				
	Teachers		dr Mariusz Kaszubowski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	30.0	0.0	0.0	0.0	45
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	45	6.0		49.0		100
Subject objectives	Aim of the course - Understanding the basic concepts of probability and its application in the risk insurance. - Knowledge of the most commonly used probability distributions, their properties and applications in insurance issues. - The student understands the basic concepts of insurance. - The student is able to verify a basic insurance products including net premiums.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_W07] has an in-depth knowledge on methods of social and economic phenomena description, including market information acquisition techniques and methods of analysis and modelling of economic processes	The student has knowledge of the market life insurance and property insurance in Poland and in the World			[SW1] Assessment of factual knowledge		
	[K7_W11] has a broadened knowledge of socio-economic phenomena and processes, understanding their determinants and consequences	The student, on the basis of knowledge, draw correct conclusions about the real problems of the insurance statistics			[SW1] Assessment of factual knowledge		
	[K7_U14] can improve oneself through the systematic acquisition of knowledge and skills	The student is able to perform an analysis of insurance products on the basis of historical data and demographics.			[SU1] Assessment of task fulfilment		
	[K7_U09] has the ability to use advanced mathematical tools to analyse and assess economic phenomena and to make decisions by economic operators	Student can analyze the problem, to choose the right tools and present the results. Can participate in the preparation of basic insurance products, taking into account the different risk using tools and statistical methods.			[SU1] Assessment of task fulfilment		
[K7_W02] has a broadened knowledge of how to describe economic phenomena using quantitative methods	The student has the ability to assess underwriting risk and selection of appropriate statistical techniques to assess its likelihood			[SW1] Assessment of factual knowledge			

Subject contents	Elements of probability especially used in insurance (conditional probability, total probability, Bayes' formula). Probability distributions used in the assessment of risk insurance. Test of fit of theoretical distributions insurance risks based on historical data. The calculation of net premiums in various forms of insurance. The calculation of gross premiums. Tables of life expectancy, their design and application. Switching functions and their use in the calculation of insurance premiums. The analysis of life insurance in Poland and in the World.		
Prerequisites and co-requisites	Descriptive Statistics Mathematical Statistics		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Final test	60.0%	100.0%
Recommended reading	Basic literature	<p>"Podstawy matematyki ubezpieczeń na życie", Bartłomiej Błaszczyszyn, Tomasz Rolski, PWN 2018</p> <p>"Ubezpieczenia zdrowotne w Polsce i na świecie", Dorota Ostrowska, Paweł Sowa, Alina Warelis, Wydawnictwo CeDeWu 2017</p> <p>Ubezpieczenia na życie. Teoria i praktyka Eugeniusz Stroński, Wydawnictwo Poltext z serii Ubezpieczenia, Warszawa 2004</p> <p>Nowe zasady ubezpieczeń majątkowych i osobowych. Poradnik T. Jakubowski, Warszawa 1991</p>	
	Supplementary literature	<p>"Ubezpieczenia Wyzwania rynku", Ilona Kwiecień, Patrycja Kowalczyk-Rólczyńska, Wydawnictwo: C.H. Beck 2019</p> <p>Podstawy ubezpieczeń, tom II produkty pod redakcją Jana Monkiewicza, Wydawnictwo Poltext, seria: Ubezpieczenia, Warszawa 2005 (wydanie I - 2001)</p>	
	eResources addresses		
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> 1. Theory of probability (use of Bayes' formula) 2. The calculation of net premiums in various insurances 3. Calculation of net premiums for different insurances 4. The use of the commutation functions 5. Questions concerning the theoretical functioning of the insurance market in Poland and abroad 		
Work placement	Not applicable		