

## Subject card

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|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------|-----|
| Subject name and code                       | Reinsurance and Coinsurance, PG_00148171                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                          |                                         |                                     |                                                                                                                      |            |     |
| Field of study                              | Insurance - Interdisciplinary Studies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                          |                                         |                                     |                                                                                                                      |            |     |
| Date of commencement of studies             | October 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                          | Academic year of realisation of subject |                                     | 2026/2027                                                                                                            |            |     |
| Education level                             | Master's 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                          | Mode of delivery                        |                                     | at the university                                                                                                    |            |     |
| Year of study                               | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                          | Language of instruction                 |                                     | Polish                                                                                                               |            |     |
| Semester of study                           | 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                          | ECTS credits                            |                                     | 0.0                                                                                                                  |            |     |
| Learning profile                            | academic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                          | Assessment form                         |                                     | credit                                                                                                               |            |     |
| Conducting unit                             | Department of Statistics -> Faculty of Management -> Rector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                          |                                         |                                     |                                                                                                                      |            |     |
| Name and surname of lecturer (lecturers)    | Subject supervisor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                          | dr hab. Ewa Wycinka                     |                                     |                                                                                                                      |            |     |
|                                             | Teachers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                          |                                         |                                     |                                                                                                                      |            |     |
| Lesson types                                | Lesson type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Lecture                                                  | Tutorial                                | Laboratory                          | Project                                                                                                              | Seminar    | SUM |
|                                             | Number of study hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.0                                                      | 10.0                                    | 0.0                                 | 0.0                                                                                                                  | 0.0        | 10  |
|                                             | 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 10                                                       |                                         | 5.0                                 |                                                                                                                      | 20.0       | 35  |
| Subject objectives                          | <p>Acquire knowledge of the history, principles, functions and objectives of reinsurance and co-insurance, and the effect of reinsurance and co-insurance on the probability of ruin, the technical results and the overall results of insurance and reinsurance undertakings.</p> <p>Knowledge of the classification and types of reinsurance contracts, methods of calculating reinsurance premiums and ways of diversifying reinsured risks.</p> <p>To acquire knowledge of the collection of insurance statistics and their contribution to the insurance sector in the national economy.</p> |                                                          |                                         |                                     |                                                                                                                      |            |     |

| Learning outcomes | Course outcome                                                                                                                                                                                                                                                                                                                                                    | Subject outcome                                                                                                                                                                                                                                                                                                                                                        | Method of verification                                                                                                               |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|                   | [UBEZMU2_W08] The student knows the methods and tools, including data and information acquisition techniques, appropriate to the field of insurance and related disciplines.                                                                                                                                                                                      | Understand the basic concepts of reinsurance, the types of reinsurance contracts and the methods of estimating reinsurance premiums. He/she knows how to collect statistical and insurance data in order to analyse reinsurance data on the operation of insurance and reinsurance enterprises and their contribution to the insurance sector of the national economy. | [SW4] test/exam - oral or written<br>[SW1] oral statement/<br>conversation/discussion<br>[SW2] presentation/project/paper/<br>report |
|                   | [UBEZMU2_K04] The student adheres to the principles of business ethics, respects the law, is objective, is able to recognize conflicts of interest, correctly identifies and resolves dilemmas.                                                                                                                                                                   | Learned about the role, functions and responsibilities of actuaries in insurance and reinsurance companies                                                                                                                                                                                                                                                             | [SK1] oral statement/conversation/<br>discussion<br>[SK4] test/exam - oral or written                                                |
|                   | [UBEZMU2_U03] The student has developed skills to understand and analyze socio-economic phenomena, including by formulating and testing hypotheses related to insurance research problems.                                                                                                                                                                        | Can explore the dynamics, determine the rate of insurance development and determine the trend function.                                                                                                                                                                                                                                                                | [SU2] presentation/project/paper/<br>report                                                                                          |
|                   | [UBEZMU2_W01] The student has an expanded knowledge of insurance and its place in the system of sciences of economics and finance and legal sciences and its relationship to other sciences.                                                                                                                                                                      | Students will be familiar with the concept and principles, functions and objectives of reinsurance in insurance and reinsurance companies.                                                                                                                                                                                                                             | [SW4] test/exam - oral or written<br>[SW1] oral statement/<br>conversation/discussion                                                |
|                   | [UBEZMU2_W02] The student has advanced and structured knowledge of various types of structures and institutions and the changes taking place in them, especially the insurance and financial system of market and public character. The student has known the interrelationships between these structures and institutions on a national and international scale. | He is familiar with innovative ways of diversifying reinsured risks on the international financial market.                                                                                                                                                                                                                                                             | [SW4] test/exam - oral or written                                                                                                    |
|                   | [UBEZMU2_U01] The student has in-depth skills of observation and interpretation of phenomena related to economic and legal aspects of insurance, including the use of advanced information and communication techniques, and is able to integrate knowledge from various scientific disciplines.                                                                  | Understand the nature and objectives of reinsurance. He/she will be able to select independently good methods for estimating reinsurance premiums for given reinsurance contracts and be able to estimate reinsurance premiums for selected insurance contracts and interpret the results obtained.                                                                    | [SU1] oral statement/conversation/<br>discussion<br>[SU2] presentation/project/paper/<br>report<br>[SU4] test/exam - oral or written |
|                   | [UBEZMU2_W05] The student knows and understands the dilemmas of modern insurance on scientific and practical grounds.                                                                                                                                                                                                                                             | Has knowledge of the impact of reinsurance on the probability of ruin, technical and overall performance of the insurance and reinsurance undertaking                                                                                                                                                                                                                  | [SW1] oral statement/<br>conversation/discussion                                                                                     |
|                   | [UBEZMU2_K03] The student thinks creatively, is able to go beyond the usual patterns, is able to think and act in an entrepreneurial manner, is able to adapt flexibly to the requirements of the environment.                                                                                                                                                    | Can discuss and independently formulate conclusions and share new knowledge with others through selected media.                                                                                                                                                                                                                                                        | [SK1] oral statement/conversation/<br>discussion<br>[SK2] presentation/project/paper/<br>report                                      |
|                   | [UBEZMU2_W03] The student knows and understands the main trends in the development of insurance as a subject of study in the disciplines of economics and finance and legal sciences.                                                                                                                                                                             | The student knows and understands the main trends in the development of reinsurance business.                                                                                                                                                                                                                                                                          | [SW4] test/exam - oral or written                                                                                                    |

|                                 | Course outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Subject outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Method of verification                                                                  |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|                                 | [UBEZMU2_K01] The student is critically aware of the level of his knowledge and skills, recognizes the importance of knowledge in solving cognitive and practical problems in the field of insurance, consults experts in case of difficulties in solving the problem independently.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The student will understand the need for continuous improvement of knowledge in the field of reinsurance as a method of insurance risk diversification and will be able to complement and improve his/her knowledge and skills.                                                                                                                                                                                                                                                                                                                                          | [SK1] oral statement/conversation/discussion<br>[SK2] presentation/project/paper/report |
| Subject contents                | <p>1 The history of reinsurance in Poland and worldwide.2. The role and importance of reinsurance and co-insurance in risk sharing.3. Types of reinsurance and classification of contracts by risk sharing and classification of contracts by liabilities.4. Alternative forms of insurance risk transfer. The use of derivatives and alternative instruments in financing the economic impact of risks.5. The insurer's surplus process (moment of ruin, adjustment factor and relative safety margin - for discrete time).6. The impact of reinsurance on the probability of insolvency, on the technical and overall results of insurance companies.7. Calculation of reinsurance premiums by type of reinsurance contract.8. determination of deductibles and retentions for selected reinsurance contracts.9. selection and evaluation criteria of an insurance and reinsurance company (evaluation of financial situation: basic characteristics and evaluation indicators).10. The Polish reinsurance market as part of the single European market. Market concentration and analysis of the development of placement business.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                         |
| Prerequisites and co-requisites | Previous subjects: Foundations of Risk and Insurance, Statistics and Demography. Understanding the basic concepts of insurance, probability theory.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                         |
| Assessment methods and criteria | Subject passing criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Passing threshold                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Percentage of the final grade                                                           |
|                                 | written colloquium                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 51.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 50.0%                                                                                   |
|                                 | activity in classes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 51.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 30.0%                                                                                   |
|                                 | project                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 20.0%                                                                                   |
| Recommended reading             | Basic literature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>1. Małek A., Reasekuracja - klasyczne i alternatywne metody transferu ryzyka ubezpieczeniowego, Wydawnictwo Poltex, Warszawa, 2011.</p> <p>2. Montalbetti E., Reasekuracja, PWE, Warszawa 1970.</p> <p>3. Ronka-Chmielowiec W., Reasekuracja w działalności przedsiębiorstwa ubezpieczeniowego, [w:] Handshke J., Monkiewicz J. (red.), Ubezpieczenia podręcznik akademicki, Wydawnictwo Poltext, Warszawa 2010.</p> <p>4. Woźniak-Makarska M., Reasekuracja zarys ogólny, [w:] Wierzbicka E. (red.), Ubezpieczenia Non-Life, Wydawnictwo CeDeWu, Warszawa, 2010.</p> |                                                                                         |

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|----------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                | Supplementary literature | <p>1. Albrecher, H., Beirlant, J., &amp; Teugels, J. L. (2017). Reinsurance: actuarial and statistical aspects. John Wiley &amp; Sons.</p> <p>2. Bowers N.L. Jr, Gerber H.U., Hickman J.C., Jones D.A., Nesbitt C.J., Actuarial mathematics, Illinois: The Society of Actuaries, 1997.</p> <p>3. Carter, R. L. (Ed.). (2013). Reinsurance. Springer Science &amp; Business Media.</p> <p>4. Global Reinsurance Guide 2020, Fitch Ratings Publishes, New York &amp; London.</p> <p>5. Ortyński K., Czynniki popytu na reasekurację oraz rentowności ubezpieczycieli na rynku, [w:] Kwiecień I. (red.), Ubezpieczenia we współczesnym świecie. Problemy i tendencje, Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław, 2017.</p> <p>6. Ostasiewicz S., Elementy aktuariatu. Rozdział 5., Wydawnictwo Akademii Ekonomicznej im. Langego we Wrocławiu, Wrocław 2003.</p> <p>7. Pobłocka A., Ubezpieczenia na życie związane z ubezpieczeniowym funduszem kapitałowym i ubezpieczenia na życie związane z systemem zabezpieczenia społecznego w latach 2002-2015, [w:] Rutecka-Góra J., Długoterminowe oszczędzanie : postawy, strategie i wyzwania, Oficyna Wydawnicza SGH, Warszawa, 2016.</p> <p>8. Pobłocka A., Szacowanie rezerw techniczno-ubezpieczeniowych w ujęciu wymogów wypłacalności, [w:] Kwiecień I., Kowalczyk-Rólczyńska P. ( red. ), Ubezpieczenia: wyzwania rynku, Finanse, Wydawnictwo C.H.Beck, 2019.</p> <p>9. The essential guide to reinsurance, Swiss RE, Zurich 2013</p> <p>10. Wieteska S., Rezerwy techniczno-ubezpieczeniowe zakładów ubezpieczeń. Teoria i praktyka, Branta Oficyna Wydawnicza, Kraków 2004.</p> <p>11. Wytyczne dotyczące reasekuracji biernej/retrocesji, Komisja Nadzoru Finansowego, Warszawa 2014</p> |
|                                                                | eResources addresses     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Example issues/<br>example questions/<br>tasks being completed |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Work placement                                                 | Not applicable           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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