



Year	2024/2025	
Course title	Market and Operational Risk Management	
Course number	234151 - 0399	3 ECTS points
Lecturer	Niedziółka Paweł , PhD	

#### A. Course objective

The goal of the course is to present in a comprehensive way a proces of market and operational risk management, including drivers, measurement methods and regulatory framework.

#### B. Abstract

Market risk and operational risk as bank risk components. Market and operational risk vs.other types of risk. Risk management process. Regulatory framework

#### C. Learning outcomes

Knowledge	<ul style="list-style-type: none"><li>The student knows main sources of market and operational risks</li><li>The Student identifies strengths and weaknesses of different risk measures</li><li>The student is familiar with main sources of global risk regulation and best practices</li><li>The student knows supervisory regulations in the field of market and operational risks</li></ul>
Skills	<ul style="list-style-type: none"><li>The student is able to identify risk factors</li><li>The student is able to calculate risk measures for individual instruments and portfolios as well as aggregate and disaggregate the measures for multiple sub-portfolios</li><li>The student can select an appropriate risk measure depending on a specific business context</li><li>The student understands the importance of an appropriate risk governance framework</li></ul>
Social competencies	<ul style="list-style-type: none"><li>The student understands that proper functioning of a risk management framework is a result of potentially complex social interactions in a corporate context</li><li>The student is able to point to incentives faced by particular employees that might be incompatible with a proper functioning of a prudent risk management framework</li></ul>

#### D. Main issues

- 1 Introduction to market and operational risk management. Regulatory framework.
- 2 Exposures to financial market instruments and exposures to risk factors.

3	Modelling distribution of financial market returns (fat tails, GARCH effects, multidimensional dependency measures)
4	Measuring market risk - gap and sensitivity measures, value at risk (VaR), expected shortfall (ES)
5	Estimation methods for VaR and ES (parametric approaches, historical simulation, Monte Carlo simulation)
6	Operational risk events and sources of data. Risk awareness
7	Qualitative and heuristic approach to operational risk
8	Operational VaR.
9	Tail events. Extreme value theory
10	Stress tests in market and operational risk
11	Selected case studies in market and operational risk management.
12	Relationship between market risk and operational risk vs. other risk types
13	Decomposition and aggregation of risk
14	Corporate governance aspects of market and operational risk management (setup of risk limits system, framework for controlling risk exposures)

**E. Basic literature**

(1) Hull J. (2015), Risk Management and Financial Institutions, 4th edition, John Wiley & Sons; (2) Crouhy M., Galai D., Mark R. (2014), The Essentials of Risk Management, McGraw-Hill, New York, 2nd ed.; (3) Diebold F.X., Doherty N.A., Herring R.J. (2010), The Known, the Unknown, and the Unknowable in Financial Risk Management, Princeton University Press, Princeton

**F. Supplementary literature**

(1) Alexander C. (2009), Market risk analysis, Volumes I-IV, John Wiley & Sons; (2) Dowd K. (2005), Measuring market risk, 2nd edition, John Wiley & Sons; (3) Girling P.X. (2013), A Complete Guide to a Successful Operational Risk Framework, Wiley Finance Editions

**G. Author's most important publications concerning the offered course**

, red. Piotr Czapiewski, Paweł Niedziółka, Zarządzanie portfelem inwestycyjnym, 2016

**H. Numbers of required prerequisites**

not required

**I. Course size and mode**

	Full-time	Saturday-Sunday	Afternoon
<b>Total:</b>	30	14	-
Lecture	30	14	-

**J. Final mark (assessment)**

traditional examination (3 excercises)	30%
multiple choice examination (20 test questions)	70%

**K. Foreign language requirments**

English

**L. Selection criteria**

**M. Methods applied**

Lecture