UČNI NAČRT PREDMETA/COURSE SYLLABUS

Predmet:	Ravnanje s tveganji
Course title:	Risk Management
Članica nosilka/UL Member:	UL FU

Študijski programi in stopnja	**Študijska smer**	**Letnik**	**Semestri**
Skupni doktorski študijski program UPRAVLJANJE IN EKONOMIKA JAVNEGA SEKTORJA , tretja stopnja, za pridobitev doktorata znanosti	Javno upravljanje (modul)	2. letnik	Celoletni
Skupni doktorski študijski program UPRAVLJANJE IN EKONOMIKA JAVNEGA SEKTORJA , tretja stopnja, za pridobitev doktorata znanosti	Ekonomski (modul)	2. letnik	Celoletni

Univerzitetna koda predmeta/University course code:	0060759
Koda učne enote na članici/UL Member course code:	3032

Predavanja	**Seminar**	**Vaje**	**Klinične vaje**	**Druge oblike študija**	**Samostojno delo**	**ECTS**
20	20	0	0	20	90	5

Nosilec predmeta/Lecturer:	dr Saša Žiković

Izvajalci predavanj:	dr Saša Žiković
Izvajalci seminarjev:	dr Saša Žiković
Izvajalci vaj:	
Izvajalci kliničnih vaj:	
Izvajalci drugih oblik:	
Izvajalci praktičnega usposabljanja:	

Vrsta predmeta/Course type:	izbirni/elective

Jeziki/Languages:	Predavanja/Lectures:	Angleščina, Drugo
	Vaje/Tutorial:	

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisites:**
Splošni pogoji za vpis v program.	

Vsebina:	**Content (Syllabus outline):**
1. Vpliv finančnih tveganj na sodobno poslovanje, regulacijski okvir za merjenje in upravljanje s finančnimi tveganji, faktorji tveganja in distribucije verjetnosti 2. Kvantitativno modeliranje finančnih tveganj 3. Value at Risk (VaR) metodologija 4. Expected shortfall (ES) metodologija 5. Modeliranje časovnih serij • modeli stacionarnih časovnih serij • modeli nestacionarnih časovnih serij	1. Influence of financial risks on modern business, Regulatory framework for measuring and managing financial risks, Risk factors and probability distributions 2. Quantitative modeling of financial risks 3. Value at Risk (VaR) methodology 4. Expected shortfall (ES) methodology 5. Time series modeling • Stationary time series models • Non-stationary time series models

• ARCH/GARCH modeli volatilnosti • teorija ekstremnih vrednosti 6. Modeli merjenja kreditnega tveganja • strukturalni modeli • threshold modeli • hibridni modeli • Monte Carlo metoda 7. Modeli merjenja tržnih tveganj • parametrijski modeli • neparametrijski modeli • hibridni modeli 8. Modeli merjenja operativnega tveganja • pristop temeljnega indikatorja • standardizirani pristop • napredni pristop	• ARCH/GARCH volatility models • Extreme value theory 6. Credit risk measurement models • structural models • threshold models • hybrid models • Monte Carlo method 7. Market risk measurement models • parametric models • nonparametric models • hybrid models 8. Operational risk measurement models • basic indicator approach • standardized approach • advanced measurement approaches

Temeljna literatura in viri/Readings:

- Žiković Saša: Market Risk in Transition Countries - Value at Risk Approach, University of Rijeka, Faculty of Economics, 2010.
- Alexander Carol: Risk Management and Analysis, Volume 1: Measuring and Modeling Financial Risk. New York: John Wiley & Sons, 2000.
- Allen Linda, Boudoukh, Saunders Anthony: Understanding Market, Credit, and Operational Risk: The Value at Risk Approach. Oxford: Blackwell Publishing, 2004.
- Dowd Kevin: Measuring market risk. New York: John Wiley & Sons, 2005.
- McNeil J. Alexander, Frey Rudiger, Embrechts Paul: Quantitative Risk Management; Concepts, Techniques and Tools. New Jersey: Princeton University Press, 2005.

Cilji in kompetence:	**Objectives and competences:**
Študenti: • uporabljajo najpomembnejša znanja in veščine, da bi uspešno opravili ekonomsko analizo na področju ravnanja s tveganji, • poznajo značilnosti različnih vrst tveganj, • uporabljajo ekonometrijske metode pri presoji tveganja, • uporabljajo instrumente za ravnanje s tveganji. Kompetence: • razumevanje pomena in vloge ravnanja s tveganji v sodobnem poslovanju, • razumevanje najnovejših metod in modelov ekonometričnega modeliranja tveganja, • razumevanje naprednih statistično-matematičnih metod, ki se uporabljajo na področju ravnanja s tveganji, • uporaba razvitih statističnih aparatov za merjenje tveganja na praktičnih primerih, • razumevanje kvantitativnega modeliranja in testiranja modela merjenja kreditnega, tržnega in operativnega tveganja, • kritično ocenjevanje lastnosti, predpisanih zahtev in tveganja na različnih trgih, • razumevanje narave tveganja in ravnanja s tveganji skozi uporabo modernih finančnih instrumentov in finančnih derivatov.	Students: • Use the most important knowledge and skills needed for successful economic analysis in the field of risk management. • Distinguish the characteristics of different types of risks, • Apply econometric methods in evaluating risks, • Apply the tools needed for successful risk management. Competences: • Understanding the importance and role of risk management in modern business, • Understanding the newest methods and models in econometric modeling of risks, • Understanding advanced statistical and mathematical methods used in the field of risks management, • To be able to practically implement advanced statistical methods in measuring risks, • Understanding quantitative modeling and backtesting of models used in credit, market and operational risk measurement, • To critically evaluate characteristics, regulatory practices and risks in different markets, • Understanding the nature of risk and risk management by using modern financial tools and financial derivatives.

Predvideni študijski rezultati: **Intended learning outcomes:**

Predmet prispeva k boljšemu razumevanju stohastičnih procesov, ki določajo procese, dogodke, cene, volatilnost in na splošno odnosov v okviru ekonomije. Pridobljene kompetence in veščine se v prvi vrsti nanašajo na razumevanje globalnih trendov in izkušenj na področju merjenja, modeliranja in ravnanja s tveganji. Poznavanje statističnega in matematičnega modeliranja stohastičnih procesov na tržiščih.	This course contributes to a better understanding of the stochastic processes determining the processes, events, prices, volatilities and relations within the economy. The acquired competences and skills primarily include knowledge and understanding of global trends and experiences in the areas of measuring, modeling and managing risks, but also on statistical and mathematical modeling of stochastic processes in the markets.

Metode poučevanja in učenja:	**Learning and teaching methods:**
1. Sestavni del predmeta so predavanja in seminar v predavalnici ter individualno delo na raziskovalnem projektu. 2. Predavanja o izbranih temah s področja ravnanja s tveganji. 3. Seminarski pouk – študenti predstavijo vsebino teme in rezultate svojega raziskovalnega dela. 4. Individualno učenje za izpit.	1. Lectures and seminars in class room; individual study and research work of students. 2. Lectures – contemporary topics in the field of risk management are presented. 3. Seminars – students present topics and results of their research work. 4. Individual study for the exam.

Načini ocenjevanja:	**Delež/Weight**	**Assessment:**
• priprava in predstavitev raziskovalnega dela	50,00 %	• Research paper preparation and presentation
• pisni izpit	50,00 %	• Written exam

Reference nosilca/Lecturer's references:

1. Žiković Saša, Filer K. Randall: RANKING OF VAR AND ES MODELS: PERFORMANCE IN DEVELOPED AND EMERGING MARKETS. The Czech Journal of Economics and Finance, Vol 63(4), 2013., p. 327-359
2. Žiković Saša, Aktan Bora: DECAY FACTOR OPTIMISATION IN TIME WEIGHTED SIMULATION - EVALUATING VaR PERFORMANCE. International Journal of Forecasting, 27 (2011) p. 1147–1159.
3. Žiković Saša: MEASURING RISK OF CRUDE OIL AT EXTREME QUANTILES. Journal of Economics and Business, Proceedings of Rijeka Faculty of Economics, Vol. 29. No. 1., University of Rijeka, Faculty of Economics, 2011, p. 9–31.
4. Žiković Saša, Pečarić Mario: MODELLING EXTREME EVENTS: APPLICATION TO ZAGREB STOCK EXCHANGE. Economic review, 2010, Vol. 61, No. 1-2., p. 19–37.
5. Žiković Saša, Aktan Bora: GLOBAL FINANCIAL CRISIS AND VaR PERFORMANCE IN EMERGING MARKETS: A CASE OF EU CANDIDATE STATES - TURKEY AND CROATIA. Journal of Economics and Business, Proceedings of Rijeka Faculty of Economics, Vol. 27., No. 1., University of Rijeka, Faculty of Economics, 2009, p. 149–170.