Privatdozent Dr. Harald Kinateder

UNIVERSITÄT PASSAU
Wirtschaftswissenschaftliche Fakultät

Universität Passau · 94030 Passau

E-Mail harald.kinateder@uni-passau.de

Zeichen Fincon-HK

Datum 30. April 2026

Course Syllabus SS 2026

Quantitatives Risikomanagement

Course Outline

The course illustrates the use of various quantitative methods, e.g. value-at-risk and expected shortfall, in the modeling and management of financial risks. Among the major issues to be discussed are the underlying risk models and assumptions, common statistical and econometric methods. In addition, the course bridges the gap between portfolio theory and practical portfolio construction.

Prerequisites

Prerequisites are fundamental skills in statistics and probability (random variables and their distributions, statistical methods, testing and inference) as well as contents of an introductory course in corporate finance.

Rules for Course Participation

This course is open for students in the Master-Program specializing in subject area of Accounting, Finance and Taxation. Several parts of the course material and references are in English. However, the lecture language is German. Hence, for course participation, basic knowledge of the German language is required. There will be a written final exam in German with the possibility to answer the questions in German or English at the end of the semester. The course comprises 2 SWS.

If you have any questions, please refer to PD Dr. Harald Kinateder via email (harald.kinateder@uni-passau.de).

Besucheradresse Innstraße 27, Raum 101-105
Internetadresse wiwi.uni-passau.de

Course Material and Content

The course material and additional information on course organization are available in Stud.IP (course number 31814). The content for the lecture is as follows.

Topic	**References**
Introduction, Course Overview, Literature	
Risk Measures and Basic Issues in Measuring Market Risk	**[ADE], [DJS], [EKT], [G], [K1], [MFE], [R]**
Value-at-Risk Prediction	**[BGV], [C], [GJ], [MFE], [T]**
Systemic Risk	**[APP], [AB], [BE], [BHT], [KW], [WBN]**
Market Liquidity	**[A], [BPW], [CS], [HPW], [KS], [PS], [W]**
Risk Management for ETF Investments	**[K2]**
Decision Making Under Uncertainty	**[HL]**
Standard Portfolio Optimization Techniques	**[HL], [Ma]**
Final Examination (5 ECTS): one hour written in-class exam (60 Points).	*The final exam date will be announced during the semester via a Stud.IP message.*

References

[1] **Acharya, V., Pedersen, L., Philippon, T. and M. Richardson (2010):** Measuring systemic risk, Working Paper, New York University, Stern School of Business. **[APP]**

[2] **Adrian, T. and M.K. Brunnermeier (2011):** CoVaR, Working Paper 17454, National Bureau of Economic Research. **[AB]**

[3] **Amihud, Y. (2002):** Illiquidity and stock returns: cross-section and time-series effects, *Journal of Financial Markets* 5: 31-56. **[A]**

[4] **Artzner, P., Delbaen, F., Eber, J.-M. and D. Heath (1999):** Coherent measures of risk, *Mathematical Finance* 9: 203-228. **[ADE]**

[5] **Bao, J., Pan, J. and J. Wang (2011):** The illiquidity of corporate bonds, *Journal of Finance* 66: 911-946. **[BPW]**

[6] **Barone-Adesi G., Giannopoulos K. and L. Vosper (1999):** VaR without Correlations for Portfolios of Derivative Securities, *Journal of Futures Markets* 19: 583-602. **[BGV]**

[7] **Bianconi, M., Hua, X. and C.M. Tan (2015):** Determinants of systemic risk and information dissemination, *International Review of Economics and Finance* 38: 352-368. **[BHT]**

[8] **Brownless, C. and R. Engle (2017):** SRISK: a conditional capital shortfall measure of systemic risk, Working Paper Series No 37, European Systemic Risk Board. **[BE]**

[9] **Coles S. (2001):** An introduction to statistical modeling of extreme values, Springer, Berlin, Heidelberg, New York. **[C]**

[10] **Corwin, S.A. and P. Schultz (2012):** A simple way to estimate bid-ask spreads from daily high and low prices, *Journal of Finance* 67: 719-760. **[CS]**

[11] **Daníelsson, J., Jorgensen, B.N., Samorodnitsky, G., Sarma, M. and C.G. de Vries (2013):** Fat tails, VaR and subadditivity, *Journal of Econometrics* 172: 283-291. **[DJS]**

[12] **Emmer, S., Kratz, M. and D. Tasche (2015):** What is the best risk measure in practice? A comparison of standard measures, *Journal of Risk* 18: 31-60. **[EKT]**

[13] **Gneiting, T. (2012):** Making and evaluating point forecasts, *Journal of the American Statistical Association* 106: 746-762. **[G]**

[14] **Gourieroux C. and J. Jasiak (2001):** Financial Econometrics, Princeton University Press, Princeton. **[GJ]**

[15] **Hull, J.C. (2015):** Options, Futures and other Derivatives, 9th ed., Prentice Hall, Boston et al. **[H]**

[16] **Hu, G.X., Pan, J. and J. Wang (2013):** Noise as information for illiquidity, Journal of Finance 68: 2341-2382. **[HPW]**

[17] **Huang, C.-F., Litzenberger, R. H. (1988):** Foundations for Financial Economics, Elsevier, Amsterdam. **[HL]**

[18] **Kahlert, D. and N. Wagner (2017):** Are Systemically Important Eurozone Banks Undercapitalized? A Stress Testing Approach, *Working Paper,* University of Passau. **[KW]**

[19] **Kinateder, H. (2016):** Basel II versus III: A Comparative Assessment of Minimum Capital Requirements for Internal Model Approaches, *Journal of Risk* 18: 25-45. **[K1]**

[20] **Kinateder, H. (2025):** The ETF Navigator: A modern Guide to ETFs for the European Investor, Self-published, ASIN: B0DZVWVY7M. **[K2]**

[21] **Korajczyk, R.A. and R. Sadka (2008):** Pricing the commonality across alternative measures of liquidity, *Journal of Financial Economics* 87: 45-72. **[KS]**

[22] Markowitz, H. M. (1987): Mean-Variance Analysis in Portfolio Choice and Capital Markets, Blackwell, New York. **[Ma]**

[23] McNeil A. J., Frey R., Embrechts P. (2015): Quantitative Risk Management, Princeton University Press, Princeton and Oxford. **[MFE]**

[24] Pastor, L. and R.F. Stambaugh (2003): Liquidity Risk and Expected Stock Returns, *Journal of Political Economy* 111: 642-682. **[PS]**

[25] Roccioletti, S. (2016): Backtesting Value at Risk and Expected Shortfall, Springer Fachmedien Wiesbaden. **[R]**

[26] Taylor S.J. (2005): Asset Price Dynamics, Volatility and Prediction, Princeton University Press, Princeton. **[T]**

[27] Wagner, N. (2008): On the Dynamics of Market Illiquidity, in: Lhabitant F. S., Gregoriou, G. N. (eds.): *Stock Market Liquidity: Implications for Market Microstructure and Asset Pricing*, Wiley, Hoboken, pp. 349-357. **[W]**

[28] Weiß, G.N.F., Bostandzic, D. and S. Neumann (2014): What factors drive systemic risk during international financial crisis, *Journal of Banking and Finance* 41: 78-96. **[WBN]**