Copula methods are used to describe comovement between markets, risk factors and other relevant variables in finance. Copula functions have been first applied to credit risk modeling, and have been later applied to the multidimensional non-normality problem through all the fields. This course is an introduction to copula methods with applications in asset pricing, risk management and credit risk analysis.

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Class Time: subject to change
Classroom Location: to be determined

Prerequisities:

QF 5003 Stochastic Financial Theory or equivalent courses

Textbook: U. Cherubini, E. Luciano, W. Vecchiato, "Copula Methods in Finance," John Wiley & Sons (Wiley Finance Series), 2004. (ISBN: 0-470-86344-7)

References:
(1)   P. Jackel, "Monte Carlo Methods in Finance," John Wiley & Sons Ltd. 2002.
(2)   R. B. Nelson, "An Introduction to Copulas," Lecture Notes in Statistics. Springer-Verlag, 1999.

QF 5150 財務Coupla方法

Grading:

Assignments 30%, Exams(midterm and final) 50%, Course Project 20%.

Course Contents:
1. Derivatives Pricing, Hedging and Risk Management
2. Bivariate Copula Functions
3. Market Comovements and Copula Families
4. Multivariate Copulas
5. Estimation and Calibration from Market Data
6. Simulation of Market Scenarios
7. Credit Risk Applications
8. Option Pricing with Copulas