

FE534 (Fall 2014)

KAIST Graduate School of Finance and Accounting

Credit Risk Modeling and Credit Derivatives

Class hours: Monday, Wednesday 13:00 – 14:20 (2nd half)

Classroom: SUPEX 101

Instructor: Jinyong Kim

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Course Description

This course is designed to introduce various aspects of credit risk models and credit derivative products. The first half of this course will handle the issues on single-name credit modeling and derivative products. As the credit default swaps (CDS) are the building blocks for most credit derivative structures, we will mainly discuss the mechanics and valuation of CDS for the single-name product. The second half will introduce multi-name credit modeling where the main issue is default correlation. Multi-name products such as CDS portfolio indices and collateralized debt obligations (CDO) will be discussed.

Textbooks

John Hull, **Options, Futures, and Other Derivatives**, Ch. 22-23, Pearson Education

Dominic O'Kane, **Modelling Single-name and Multi-name Credit Derivatives**, The Wiley Finance Series

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Grading Policy

Homework project	30%
Final exam	70%

Homework

Homeworks are mainly from the in-chapter examples or the end-of-chapter exercises of the textbooks. Details will be announced during the class.

Tentative Schedule

Date	Topics	Reading
1 st – 2 nd weeks	Introduction to credit risk, credit derivatives, and single-name credit modeling	Hull 22.1-22.7 O’Kane Ch. 1, 3
3 th – 4 th weeks	Credit default swap (CDS): Mechanics and valuation	Hull 23.1-23.2 O’Kane Ch. 5-6
5 th week	Multi-name credit modeling: The Gaussian copula and factor-based model	Hull 22.9-22.10 O’Kane 13-14
6 th – 7 th weeks	Multi-name credit derivatives: CDS portfolio indices and collateralized debt obligation (CDO)	Hull 23.3-23.10 O’Kane 10, 12
8 th week	Final exam	