



CREDIT DERIVATIVES AND CREDIT RISK

Course Number: Statistics 593D (STAT 593D)
Instructor: Terry Leitch* (terry.l.leitch@boeing.com)
Time and Place: Tuesdays 5:30 – 7:30 , Balmer (BLM) 416
Credits and Grading: 2 Credits, Graded C/NC

Outline

- Introduction: Plurality
- Cash & Carry Pricing
- Default Probability and Recovery Based Pricing
- Structural Models (e.g. KMV, Merton model)
- The Rating Process (Guest speaker from BCC Credit)
- Basic Yield Curve Modeling
- Stochastic Spread Models
- Intensity Models
- Implementing Stochastic Spread Models
- Recovery Modeling
- Rating Transition Models
- Defaults Correlation and Default-Recovery Correlation
- Portfolio Tools: CreditRisk+ and Creditmetrics
- Example Lease Valuation & Lease Commitment Valuation

Required Textbook: *Credit Derivatives Pricing Models: Model, Pricing and Implementation* (2003), by P.J. Schonbucher , Wiley.

Course Work: Weekly exercises and final project.

Software: Excel and S-PLUS

Prerequisites: Familiarity with present-value calculations, Black-Scholes option pricing, calculation of expected value, and tree based option valuation methods. Experience with partial differential equations and stochastic differential equations would be beneficial but not necessary to use the material.

* Terry Leitch is the Director of Risk Management at The Boeing Company/Boeing Capital Corp., where he leads a broad array of credit risk initiatives. Terry's extensive career in the finance industry includes Vice President positions at O'Connor and Associates, Kidder, Peabody & Company, and First National Bank of Chicago. Prior to joining Boeing he was Managing Director at Bank of America Capital Markets. He holds an A.B. in Mathematics from the University of Chicago, an M.S in Applied Math from Northwestern, and an MBA from the London Business School.

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