

## Credit Risk Modelling

In the WS 2010/2011 we provide a two-week block lecture on portfolio credit risk models in November 2010 and a block seminar on credit risk modelling based on this lecture in January 2011. Both lecture and seminar are intended for advanced students, especially master students and other students in the final year and can be regarded as preparation for a possible master or diploma thesis.

### **Outline:**

In a two-week block lecture two important classes of portfolio credit risk models are explored: structural models and reduced form models. We will also address current market practice by studying popular industry models for portfolio credit risk. Moreover, we will investigate how these models are used in pricing and managing of credit risk exposures.

Equipped with the knowledge from the lecture, we will study different research papers in a block seminar. Here we will focus both on the theoretical analysis as well as on the numerical implementation part in order to illustrate the power of a model and to improve the understanding of the model implications in the financial market.

Every participant is required to provide a presentation and a short essay that summarizes and discusses the main ideas and results of the respective research paper. Participants of the seminar are required to visit the lecture.

**Instructor:** JProf. Dr. Eva Lütkebohmert-Holtz and Dr. Yajun Xiao, Research Group Financial Mathematics, Institute for Research in Economic Evolution

**Prerequisites:** *Futures and Options*

**Participants:** Applications including a credit points report can be send to Thomas Lais (room 2313) until October 24<sup>th</sup> 2010.

**Main References:**

Bielecki, T. R., Rutkowski, M. *Credit Risk: Modeling, Valuation and Hedging*. Springer, 2002.

Bluhm, C., Overbeck, L., Wagner, C. *Introduction to Credit Risk Modeling*. 2<sup>nd</sup> Edition, Chaman & Hall/CRC, 2010.

Lütkebohmert, E. *Concentration Risk in Credit Portfolio*. Springer, 2009.

**Course (4SWS):**

- Block Lecture: First two weeks in November 2010
- Seminar: two-four days within January, 2011

**Credits:** 4 credit points based on the presentation and the essay

**Info:** <http://www.vwl.uni-freiburg.de/fakultaet/erwien/erwien.htm>