

# **SYLLABUS**

## ***THE THEORY & PRACTICE OF INSURANCE***

*Winter 2012 – Room 001, Uni Engehalde*

### **I. COURSE OBJECTIVES AND PREREQUISITES**

As the course title indicates, this is a class on the theory and practice of insurance and reinsurance. We will cover the following major topic areas: why corporations and individuals buy insurance; the design and supply of insurance contracts and products; the organization of insurance companies; insurance “rate making” (*i.e.*, methods by which insurance companies set premiums or rates); insurance reserves and capital; insurance company asset/liability management (including related activities – securities lending in particular); reinsurance; financial guarantees, credit derivatives, and the impact of the credit crisis on monoline insurance companies; insurance-linked securities and catastrophe bonds; captives; protected cell companies; and multi-line/multi-trigger structured insurance programs.

### **II. TIME COMMITMENT AND GRADING**

Your time commitment outside of class should include a review of the assigned readings. Your course grade will be determined as follows:

$$\text{Final Grade} = \max\{0.4F + 0.6P, 0.6F + 0.4P\}$$

where P is your grade on a required term paper (see Section III for details) and F is your final examination grade.

The final examination will be administered on 27 January 2012 and will consist entirely of multiple choice questions. You can bring a calculator as well as an A4 “cheat sheet” to the exam. The cheat sheet can contain formulae and any other information, and you may fill up both sides of the paper. Microcopies of lectures and readings, however, are not allowed.

### **III. TERM PAPER**

Everyone must complete a term paper from 15-20 pages in length (double-spaced). You may work in groups of one to three people. Each group should submit a single paper and should make sure that everyone’s name appears on the paper’s cover page. Your paper is due on 16 February 2012, at 17:00 CET, and should be submitted to me *by email* either in Microsoft Word or Adobe Acrobat format. Your paper must be written in English.

Your paper should address some aspect of the insurance, reinsurance, or structured insurance/alternative risk transfer industry in Switzerland, Austria, France, Italy, Germany, or your own home country. Examples of topics include the following:

- Following the failure of most of the U.S. monolines during the credit crisis, how have European financial guaranty providers responded to the new opportunities?

- What is the relation between banks and insurance companies in France, Germany, and Switzerland?
- What economic and financial issues influence the choice of domicile for captives and protected cell companies? How competitive is Switzerland as a captive domicile? How does it compare to the Dutch Antilles?
- What is the history and future of life insurance securitizations?
- How will Solvency II impact (re-)insurance regulation and Swiss-domiciled (re-)insurance companies?
- What are the economic similarities and differences between health insurance in XYZ countries (pick at least three to compare)? Be sure to analyse how the regimes address moral hazard, adverse selection, and rate-making/pricing.
- How did the credit affect the international competitiveness and financial conditions of the major global Swiss insurance holding companies and reinsurers?
- Present a case study of how a Swiss multinational (*e.g.*, ABB, Novartis, Clariant, Nestlé, etc.) manages its insurance risks.
- Etc.

Each group should submit an email to me with your proposed paper topic for my approval. One or two short sentences is fine, and all students must have a topic approved prior to the final exam. You are free to discuss topics with me verbally during the break or after class, but all topic proposals *must be submitted and approved via email*.

Each paper must be well-organized with an introduction, main body, and conclusion. You should rely on *at least* four distinct sources for your paper and should include full citations (with enough detail for me to check them) in a references section at the end of the paper. And your paper should *not* simply identify a web site and reproduce a bunch of facts to me. If your paper is purely descriptive, your grade will depend more heavily on the number and quality of your sources and your ability to summarize them cogently. Otherwise, your paper should include some kind of analysis that relates the issues to the subjects in the course.

#### IV. CONTACTING ME

Lecture notes and the problem set will be posted in Adobe Acrobat format on my web site: <http://rmcsinc.com/ifmUnibern.html>. A review of the lecture notes is *not* required prior to class, but I recommend printing and bringing them to class for note-taking.

I check my email regularly at [cculp@bluewin.ch](mailto:cculp@bluewin.ch) and [cculp@rmcsinc.com](mailto:cculp@rmcsinc.com). Feel free to email me with questions about the class or your term papers.

#### V. READINGS

Readings for each lecture are posted on my course web site. These readings are strongly suggested but not required. Exam questions will come primarily from the lectures, not from the readings “directly.” But the readings add background and depth and will help you understand and absorb the material better, and I reserve the right to ask one or two exam questions based on the readings.

## VI. LECTURE TOPICS AND CORRESPONDING READINGS

1. **Insurance Demand, Markets, and Products (16/01/2012)**
  - a. Culp, C. L. "The Revolution in Corporate Risk Management: A Decade of Innovations in Process and Products." *Journal of Applied Corporate Finance* Vol. 14, No. 4 (Winter 2002).
  - b. Culp, C. L. *Structured Finance & Insurance*. New York: John Wiley & Sons, 2006, (hereafter "SF&I") Chapter 8, pp. 137-150.
2. **Insurance Supply and Pricing (17/01/2012)**
  - a. SF&I, Chapter 8, pp. 150-173.
3. **Insurance Company Capital Management and Reinsurance (18/01/2012)**
  - a. SF&I, Chapter 8, pp. 174-178, and Chapter 9.
  - b. Culp, C. L., and K. J. O'Donnell. "Catastrophe Reinsurance and Risk Capital in the Wake of the Credit Crisis." *Journal of Risk Finance* Vol. 10, No. 5 (2009).
  - c. Di Iorio, R., J. Crugnola-Humbert, and S. Rump. "Asset & Liability Management for Insurance Companies." *Presentation – Deloitte A&IS Zürich Actuarial Breakfast* (5 July 2011).
  - d. Faulkner, M. C. *An Introduction to Securities Lending*. 4<sup>th</sup> ed. London: Spitalfields Advisors, 2007.
4. **Credit Protection Products (23/01/2012)**
  - a. SF&I, Chapter 10.
  - b. SF&I, Chapter 12.
  - c. Stulz, R. M. "Credit Default Swaps and the Credit Crisis." *Journal of Economic Perspectives* Vol. 24, No. 1 (Winter 2010).
5. **Insurance-Linked Securities (24/01/2012)**
  - a. SF&I, Chapter 22.
  - b. Lane, M. N. "What Were We Thinking?" *Lane Financial Trade Notes* (November 24, 2008).
  - c. Lane, M. N. "Prague Spring or Louisiana Morning? Annual Review for the Four Quarters, Q2 2010 to Q1 2011." *Lane Financial Trade Notes* (March 31, 2011).
6. **Structured Insurance (25/01/2012)**
  - a. SF&I, Chapter 23.
  - b. SF&I, Chapter 25.
  - c. Culp, C. L. "Contingent Capital vs. Contingent Reverse Convertibles for Banks and Insurance Companies." *Journal of Applied Corporate Finance* Vol. 21, No. 4 (Fall 2009).
  - d. Harrington, S. E., G. Niehaus, and K. J. Risko, "Enterprise Risk Management: The Case of United Grain Growers." Reprinted in SF&I as Chapter 34.
7. **Final Examination (27/01/2012)**
8. **Term Paper Due (16/02/2012)**