

# 22S:180 Spring - 2011

Course policies are governed by the College of Liberal Arts and Sciences. Please visit the url, [http://www.clas.uiowa.edu/students/academic\\_handbook/](http://www.clas.uiowa.edu/students/academic_handbook/) in order to get familiar with the following;

- i. University policies regarding student rights and responsibilities
- ii. University policies regarding academic misconduct

Also, see the appendix to this handout.

Please visit <http://www.stat.uiowa.edu/courses/tutors.shtml> for a list of independent tutors.

## **Instructor:**

Nariankadu D. **Shyamalkumar** (i.e. call me Shyamal pronounced shá mul !)

Office: SH 208

Phone: 335-1980

E-Mail: [shyamal-kumar@uiowa.edu](mailto:shyamal-kumar@uiowa.edu)

Classes: 1:30pm - 2:20pm MTWF - E105AJB

Office Hours: 11:00am to 12:00pm MTW or by appointment.

Website: ICON at the url <http://icon.uiowa.edu>

## **Department:**

Statistics and Actuarial Science, 241 SH, 335-0712.

Chair - Prof. Dale Zimmerman, [dale-zimmerman@uiowa.edu](mailto:dale-zimmerman@uiowa.edu), 335-0712

## **Goal of this Course:**

The goal of this course largely coincides with the goal of the SOA/CAS Exam FM, and which is stated by the SOA as follows:

*The goal of the Financial Mathematics exam is to provide an understanding of the fundamental concepts of financial mathematics, and how those concepts are applied in calculating present and accumulated values for various streams of cash flows as a basis for future use in: reserving, valuation, pricing, asset/liability management, investment income, capital budgeting, and valuing contingent cash flows. The candidate will also be given an introduction to financial instruments, including derivatives, and the concept of no-arbitrage as it relates to financial mathematics.*

## Recommended Text(s) and the Syllabus:

**Ruckman, C.; & Francis, J., Financial Mathematics (2nd Ed.), 2005, BPP Professional Education**

Chapters 1; 2; 3 (3.1-3.9); 4 (4.1-4.5); 5; 6 (6.1-6.3 excluding 6.1.6-6.1.7); 7 (7.1-7.9); and 8 (8.1-8.3).

**McDonald, R.L., Derivatives Markets (2nd Edition), 2006, Addison Wesley**

Chapters 1 (1.1-1.4); 2 (2.1-2.6 and Appendix 2.A); 3 (3.1-3.5), 4 (4.1-4.4), 5 (5.1-5.4 and Appendix 5.B), and 8 (8.1-8.2).

### Practice Problem Sets

The url, <http://www.soa.org/STATIC/examinations.html>, contains SOA exam papers after year 2000. Those before year 2000 can be purchased from the Copy Center, Room C102, Pappajohn Building (College of Business). Ask for the manual of a particular section of 22S:188. For example, if you want the old exam papers on compound interest, ask the manual for 22S:188 Section 140. Below is a list of three manuals and the topics they cover.

22S:188 Section 100 Mathematics (useful for preparing Exam 1)

22S:188 Section 110 Probability and Statistics (useful for Exam 1, 22S:130, 131, 153, 154)

22S:188 Section 140 Mathematics of Finance (useful for 22S:180)

## Evaluation System:

**Homework: 15%**

Solutions to assignments will be posted on the course web site. You will be responsible to confirm the correctness of your ungraded solutions by comparing it with the published one or by getting it checked by me during office hours.

### Exams and Calculators

Only official SOA/CAS calculators will be allowed. **You will need either the Texas Instruments BA II Plus or the BA II Plus Professional.**

Mid-terms and the final will be closed-book. They will consist of **short answer type** problems. One may find the past SOA exam problems and past 22S:180 exams (available on ICON) useful in preparing for them.

- i. Mid-Term 1 - Wednesday, the 16th of February (in-class) - 25%
- ii. Mid-Term 2 - Wednesday, the 30th of March (in-class) - 25%
- iii. Final - Wednesday, 11th of May at 7:30am - 35%

### **Grading**

Undergraduate and graduate students will be treated as two separate groups when it comes to assigning final grades.

## College of Liberal Arts & Sciences: Policies and Procedures

- **Administrative Home of the Course**

The administrative home of this course is the College of Liberal Arts and Sciences, which governs academic matters relating to the course such as the add/drop deadlines, the second-grade-only option, issues concerning academic fraud or academic probation, and how credits are applied for various graduation requirements. Different colleges might have different policies. If you have questions about these or other CLAS policies, visit your academic advisor or 120 Schaeffer Hall and speak with the staff. The CLAS Academic Handbook also contains important CLAS academic policies: [www.clas.uiowa.edu/students/academic\\_handbook/index.shtml](http://www.clas.uiowa.edu/students/academic_handbook/index.shtml)

- **Academic Fraud**

Plagiarism and any other activities that result in a student presenting work that is not his or her own are academic fraud. Academic fraud is reported to the departmental DEO and then to the Associate Dean for Academic Programs and Services in the College of Liberal Arts and Sciences who deals with academic fraud according to these guidelines: [www.clas.uiowa.edu/students/academic\\_handbook/ix.shtml](http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml)

- **Making a Suggestion or a Complaint**

Students have the right to make suggestions or complaints and should first visit with the instructor, then with the course supervisor if appropriate, and next with the departmental DEO. All complaints must be made within six months of the incident. [www.clas.uiowa.edu/students/academic\\_handbook/ix.shtml#5](http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml#5)

- **Accommodations for Disabilities**

A student seeking academic accommodations first must register with Student Disability Services and then meet with an SDS counselor who determines eligibility for services. A student approved for accommodations should meet privately with the course instructor to arrange particular accommodations. [www.uiowa.edu/~sds/](http://www.uiowa.edu/~sds/)

- **Understanding Sexual Harassment**

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. Visit [www.sexualharassment.uiowa.edu/](http://www.sexualharassment.uiowa.edu/) for definitions, assistance, and the full policy.

- **Reacting Safely to Severe Weather**

The University of Iowa Operations Manual section 16.14 outlines appropriate responses to a tornado (i) or to a similar crisis. If a tornado or other severe weather is indicated by the UI outdoor warning system, members of the class should seek shelter in rooms and corridors in the innermost part of a building at the lowest level, staying clear of windows, corridors with windows, or large free-standing expanses such as auditoriums and cafeterias. The class will resume, if possible, after the UI outdoor warning system announces that the severe weather threat has ended.

- **Student Classroom Behavior**

The ability to learn is lessened when students engage in inappropriate classroom behavior, distracting others; such behaviors are a violation of the Code of Student Life. When disruptive activity occurs, a University instructor has the authority to determine classroom seating patterns and to request that a student exit the classroom, laboratory, or other area used for instruction immediately for the remainder of the period. One-day suspensions are reported to appropriate departmental, collegiate, and Student Services personnel (Office of the Vice President for Student Services and Dean of Students). University Examination Policies

- **Missed Exam Policy**

University policy requires that students be permitted to make up examinations missed because of illness, mandatory religious obligations, certain University activities, or unavoidable circumstances. Excused absence forms are required and are available on the Registrar web site. [www.registrar.uiowa.edu/forms/absence.pdf](http://www.registrar.uiowa.edu/forms/absence.pdf)

- **Final Examinations**

An undergraduate student who has two final examinations scheduled for the same period or more than three examinations scheduled for the same day may file a request for a change of schedule before the published deadline at the Registrar's Service Center, 17 Calvin Hall, 8-4 M-F, (384-4300).