The Hong Kong University of Science & Technology
Department of Finance

FINA 361: Fixed Income Securities
Spring 2005

Instructor:	Ken Hu, CFA, CPA (USA)
E-mail address:	kenhu@ust.hk
Office:	Room 2354
Teaching assistant:	Irene Leung, CFA
E-mail address:	Irenecy@ust.hk

Course Objective

This course covers basic analytical tools in fixed-income securities, major fixed-income markets, interest rate derivatives, bond portfolio management and credit derivatives such as credit default swaps. Theories, quantitative skills and their applications in the bond markets will be emphasized. Both Bloomberg and EXCEL examples will be used to assist the illustration of how market practitioners apply the theories and concepts for their bond investments and trading. The course aims to prepare students with basic and necessary knowledge to advance their study in fixed-income securities and/or start working in the bond investment industry.

Prerequisites

FINA 221
The ability to manipulate the basic functions of EXCEL spreadsheets

Course Materials

- A required textbook of Fixed Income Markets And Their Derivatives, 2nd Edition by Suresh Sundaresan, South-Western
- Lecture notes
- The Asia Wall Street Journal, Financial Times and The Economist (students will be required to write a one-page essay on a course-related topic extracted from the press by the end of the semester).
- A financial calculator will be required for this course in terms of doing exams and homework. Students are free to choose the brand and model of their own financial calculators. However, the Texas Instruments BAII Plus ("TIBA2+") model is recommended. Illustrations and notes will be given during the course to show how to apply the functions of the TIBA2+ financial calculator for bond calculations.

Grading

Class attendance & participation	5 %
An essay assignment	5 %
Homework assignments	15 %
Mid-term exam	30 %
Final exam	45 %

Class Attendance & Participation

Attendance will be taken for each class. In order to have the maximum class attendance points (3%), students should have good attendance records. Raising and/or answering relevant questions during class discussions will contribute to the class participation points (2%). Students should attend the classes of the session they have registered. Attending the classes of the session that the student has not registered will not be allowed for the purposes of both the class attendance points (3%) and the class participation points (2%).

An Essay Assignment

Students are encouraged to read The Asian Wall Street Journal, Financial Times and The Economist on a regular basis. By the last class of the course, each student is required to hand in a one-page essay (not less than 400 words) of his/her own thoughts, critiques, insights or comments on an article from the press. Students will have discretion in choosing the article, but the article should be related to the contents of the course. A copy of the article is required to be handed in together with the essay. Individual work is required and student should do his/her own work.

Homework Assignments

Some EXCEL spreadsheet assignments will be given to students and they will be required to hand in their work in an electronic format. Individual work is required and each student should do his/her own work. Copying other students' work will result in zero score for the assignment.

Exams

Both the mid-term and final exam will last for three hours. The exams will consist of both multiple choice and short questions. Each student is required to bring in his/her own financial calculator(s). No computer or any electronic devices with the full set of 26 alphabets input capability will be allowed during the exams. The exams will NOT be open book, but students will be allowed to bring to the exams an 11' by 8.5" (A4-size) data sheet, on which you can write anything you like on both sides, but everything has to be hand-written.

If students are unable to take the mid-term exam for an approved reason, the weighting of their final exam will be increased to 75% of their grading. There will be no "make-up" mid-term exam.

The final exam will be cumulative, covering the entire course. Both the exams will cover the assigned chapters of the textbook, all materials discussed in the lectures, lecture notes and all assigned readings.

Cheating will result in zero score for the exam and disciplinary actions by the University.

Tentative Schedule

Approximately each topic will take about one and a half weeks

Topic	Contents	Readings
1	**Basic Time Value Concepts** Time value of money, present value, future value, annuity	Ch. 4.A, lecture notes
2	**Bond Mathematics** Calculating yields, duration and convexity	Ch. 4, 4.B-D, lecture notes
3	**Yield Curve Analysis** Term structure of interest rates, Fisher's effect, hypotheses, bootstrapping, factors affecting yield curves, government yield curves and swap rate curves	Ch. 5, 6, lecture notes
4	**Credit Markets** Credit spread analysis, term structure of credit spreads, corporate bond trading, credit ratings, bond covenants, subordination	Ch. 8, 11, lecture notes
5	**Major Bond Markets** The US Treasury bond market, repo markets, the US agency, corporate and municipal debt markets, emerging debt and Eurobond markets	Ch. 1, 2, 3, 7, 8, 10, 11, lecture notes
6	**Interest Rate & Credit Derivatives** Overview of fixed-income derivatives, interest rate swaps, interest rate and bond futures, forward rate agreements, interest rate options, callable and putable bonds , credit derivatives	Ch. 13, 14, 15, 16, lecture notes
7	**Portfolio Management** Matching funding, horizon matching, indexation, portfolio insurance	Ch. 12, lecture notes
8	**Securitization and Asset-Backed Securities** Securitization, prepayment risk, MBS, CMOs, CDOs	Ch. 9, lecture notes