

**ACT230H1 Math of Finance L5101, Sum2010**  
**(Version May 12b, 2010)**

<i>Lecture:</i> Keith Sharp	MW7-9 (starts May 10 at 7pm, no tute)	SS1086
<i>Tutorial</i> Jing Fan jing@utstat.toronto.edu	MW6-7 (starts May 12)	SS1086
<i>Instructor</i> Dr Keith Sharp FSA CFA sharp@utstat.utoronto.ca <a href="http://fisher.utstat.utoronto.ca/sharp">http://fisher.utstat.utoronto.ca/sharp</a>	Office hours MR 11:00-12:00	SS6007
<b>Topic Coverage</b>	<b>Lectures</b>	<b>Brov 4<sup>th</sup> Ed</b>
Effective rates, simple interest, PV, Equation of value, nominal rates	May 10 (No tutorial, lecture starts at 7:10pm)	1-1.3
Discount, real rates. <b>constant force of interest</b>	May 12 (Tutorial at 6:10pm, lecture 7:10 pm-9:00pm)	1.4, 1.5, 1.6, 1.7 (skip p. 42 and first half p. 43 on varying force of interest)
Level payment annuities	May 17	2-2.1
Payment periods	May 19	2.2.1, 2.2.2
Victoria Day	May 24, 2010	
TERM TEST 1 (note time)	May 26 6:10-7:00 WI-1017	
Non-constant annuities (skip 2.3.2.3 and 2.3.2.4)	May 26 7:20pm	2.3 – 2.3.2.2
Yields, depreciation, BV, MV, sinking fund	May 31	2.4-2.5
Amortization of loan	Jun 2	3-3.2
Mortgages, sinking funds (skip 3.4)	Jun 7	3.2.1-3.3, 3.5
Bonds	Jun 9	4-4.1
TERM TEST 2 (note time)	Jun 14 6:10-7:00 WI-1017	
Bonds amortization (skip 4.3)	Jun 14 7:20pm	4.2, 4.4
Rates of return	Jun 16	5-5.2
Final exams week	June 20-June 25	

**Texts**

*Mathematics of Investment and Credit, 4<sup>rd</sup> Ed.*, Samuel A Broverman, ACTEX Publications, 2008, plus *Solutions Manual*, both available in bookstore, plus Prof Broverman’s manual for Exam FM, available to ACT230 students for the cost of printing (\$30) . Actuarial Science club reps will be at the lecture only one evening, Wednesday May 12 to sell the manual – please bring exact change.

**General:**

You are expected to read and understand the descriptive portions of the text yourself. Questions and in-class discussions are encouraged.

**Exams**

As for many professional exams, care will be taken to ensure the privacy of your answers by use of assigned seating and by the provision of several versions of tests and final, with different question orders. At least 40% of the marks on the tests and final exam will be from assignments and pop quizzes, with small changes such as to the interest rate. The best preparation for this type of exam is ‘problems, problems, problems’. The reading materials have many exam-type questions. You will wish to do all the relevant assignment questions before each test and final exam, and preferably many others as well. There will be a few pop-quiz micro-tests in lecture and tutorials during the term, not announced in advance. The in-tutorial pop quizzes are expected to test mainly the assignment completed for that class.

**Privacy and Participation lasers:**

- a) Photographs of all students will likely be taken in some classes and in term tests and final to aid in identification.
- b) Please leave your participation laser in one of the piles at the end of every lecture.

**Lectures**

Lecture and tutorial attendance is obligatory. Lectures will not be fully posted on the web.

**Marking Scheme:**

Lecture: pop quizzes	Worst two disregarded, so can miss two without penalty. Graded 7-10.	5%
Tutorials	Assigned by TA based on attendance and/or pop quizzes	5%
Test 1	Multiple choice	20%
Test 2	Multiple choice, concentrates on material since test 1	20%
Final	Multiple choice, on entire term	50%

If you miss more than two in-lecture pop quizzes, and claim medical reasons, you will need to show medical certificates for all missed pop quizzes, including the 'giftie' first two. The same 'giftie two' applies to the tutorial grade. Weightings will not be changed, either for the whole class or (for fairness to the whole class) for any individuals. At least 40% of the marks on the tests and final exam will be from the known-in-advance pool: (assignments, pop quizzes) with small changes such as to the interest rate.

**Medical certificates not really believed:**

Please do not take this course if you intend to be sick for term tests or final. Few medical certificates in this course are accepted and even fewer of them are believed. Should you miss a term test, you are required by faculty regulation to submit, within one week, appropriate documentation to the course instructor or the Departmental office: SS6018. Print on the documentation your name, student #, the course number and the date. We are skeptical about accepting medical certificates unless the doctor specifically indicates that in his/her opinion there was a disabling health problem on the day of the test. Certificates saying "Needs rest" or "injured foot" or similar will be rejected, as will certificates from chiropractors. The doctor should be contactable by us for verification. It is expected that each student with accepted documentation will be required to take a rigorous make-up test at a chalkboard. If documentation is not provided or is not accepted, your test mark for the missed test will be zero.

**Web Page:**

You will wish to monitor the Blackboard portal course site.

**Marking Scheme:**

Tests and exams will be entirely multiple choice. The final course mark will be determined via 2 in-class term tests, each worth 20%, a final exam worth 50%, surprise in-lecture '**pop-quizzes**' which will total 5% and a TA-assigned grade of 5%. For the second term test, only material since the first term test will be covered. Your worst two lecture pop-quiz grades (eg zero if you miss two pop quizzes) will be disregarded. If you miss more than two, and claim medical reasons, you will need to show medical certificates for all missed pop quizzes, including the 'giftie' first two. These weightings will not be changed, either for the whole class or (for fairness to the whole class) for any individuals. The tests and final exam will be entirely in multiple choice format. At least 40% of the marks on the tests and final exam will be from the known-in-advance pool: (assignments, pop quizzes and questions-of-the-class) with small changes such as to the interest rate. The TA grading method will be the TA's decision, but will likely be for tutorial attendance and/or in-tutorial pop quizzes because assignment solutions will generally be available before the due date

**Calculator**

A calculator is essential for working exercises, tests and final exam. A financial calculator such as the TI BA II Plus is useful. However, tests and the final exam will assume only that a  $y^x$  key is available.

Suspected errors? Please tell Keith Sharp, sharp@utstat.utoronto.ca