

ACT 240H1F Fall 2011: Fundamentals of Investment and Credit:
(Oct 23, 2011 version: please monitor updates at www.utstat.utoronto.ca/sharp)

‘Only about 40% of students graduated in the U of T actuarial science program eventually get a job in the actuarial field’

(U of T Act Sci Club statement, 2007: formal instructor attempts at data collection are handicapped by university privacy rules). Enrolment in actuarial science programs Canada-wide has multiplied by perhaps five in the last 25 years and entry level actuarial jobs have become much more difficult to find in Canada and most other countries. Graduates with little work experience have often been unable to find an entry level actuarial job. Students enthusiastic about actuarial science and/or CFA are advised to improve their career prospects by developing a broader business background too, to ensure that their Excel skills are competitive, to pass SoA exams and, most of all, to get office work experience. Also enhance your communication skills e.g. by attending a Toastmaster club (www.toastmasters60.org) and gaining the ‘Competent Toastmaster’ certificate for giving ten 7-minute speeches to about 15 people and using the feedback provided. The Chartered Financial Analyst (CFA) exams are an easier (but not easy) option, make use the material from this course and have a fairly similar examination format: see www.utstat.utoronto.ca/sharp and www.cfainstitute.org. A CFA doesn’t guarantee a job either, but it is widely recognized by many types of employer as distinguishing your resume from a thousand others. However, non-actuarial employers are likely to see value in courses on math-of-finance, interest, mortgages etc.

Intended Audience:

Students who expect to take the professional actuarial exams of the (Chicago-based) Society of Actuaries (www.soa.org) or Casualty Actuarial Society (www.casact.org). No disgrace if you fail-in fact you can keep it secret if you wish (I took some SoA exams in Buffalo NY just in case I failed one!). To qualify as FSA and/or FCIA takes years of tough self-study. The professional exams, co-sponsored by the Canadian Institute of Actuaries (www.actuaries.ca), are rigorous and ACT240 and ACT245 are intended to help students prepare for the exam FM. Hence ACT240 is structured around the syllabus and the examination philosophy of the SoA and CAS: numerical multiple choice questions which must be quickly and accurately done. Please see www.beanactuary.org for details, for sample exams and to submit exam applications. You are expected to read the text ahead of the lectures. Questions and in-class discussions are encouraged. You will find it useful to sometimes read the *Wall Street Journal* (print or www.wsj.com) or *Globe and Mail Report on Business* (<http://www.theglobeandmail.com>). This course relates closely to ‘real world’ situations. There are strict rules regarding the **minimum 63 needed in ACT240, ACT245 and ACT247** for those wishing to continue in actuarial science and it’s important to visit the act-sci webpage for details (www.utstat.utoronto.ca/sam/homep.html). Non-actuarial students should take ACT230.

Text:

Prof Broverman’s Fall 2008 or later Study Guide for Exam FM, to be made available at a pre-notified lecture for, probably, \$30 cash – please bring it! Please buy on the day that ActSci Club personnel sell it in lecture – it is printed specially in bulk to give you a low price and single copies may not be available after that except from the US at about \$200. You are expected to read and understand the descriptive portions of the guide yourself.

Calculator:

A non-programmable financial calculator is needed at each lecture, tutorial, test and exam. “Financial” can be defined here as “Can solve $3.803=(1+(1+i)^{-4})/i$ to get interest rate i ”. The Texas Instruments BA II PLUS calculator is one of the calculators allowed on the Society of Actuaries exams and on the CFA Chartered Financial Analyst exams: see www.cfainstitute.org; it has the financial functions that would be needed for this course and is recommended. U of T Bookstore is worth trying – sometimes it’s at the northeast cash. If you have trouble finding it, you can buy it on the web or phone ‘bank core’ *Grand and Toy* or *Staples* stores.

Exams and Professional Conduct:

The best preparation for this type of exam is ‘problems, problems, problems’. The reading material has 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. 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 and with dummy questions to make Scantrons more private. Anyone considering cheating should be aware that the Canadian Institute of Actuaries, under pressure from the provincial and federal governments, monitors the honesty and possible corruptibility of those it admits as actuaries. As a FCIA ‘fellow’ I am required by the Canadian Institute to enforce its strict rules.

Participation lasers:

Please leave your participation laser in one of the piles at the end of every lecture. I pay for them personally in the hope that you will find the easy participation helpful-but it does mean that if you take them home then it seems a lot like theft to me. Use them as indicated in class to e.g. point to suggested answers, to unclear points, to give your opinion etc. Pointing at my eyes (or at the clock) is discouraged, thank you. Also, please don’t laser-slice your neighbours, unless of course they whisper in lecture!

Office hours for all students Sep 21, 2011 - Dec 06, 2011 WE68A (Wetmore basement) (across Huron St from SS)				Priority to:
	Monday	1-5	Meng	ACT230/240
	Tuesday	1-6	Shivon	
	Wednesday	4-6	Cody	STA220
	Thursday	1-3, 3-5	Cody, Meng	
	Friday	10-12, 12-3	Shivon, Cody	STA220

Medical certificates are carefully and skeptically investigated in accordance with University regulations:

A few years ago, 20 out of every 100 students would produce doctors' certificates. Now University policy is very strictly interpreted and very strictly enforced. Medical certificates must be signed by an Ontario-registered MD, with registration number and phone number, and the date of certificate relative to claimed sickness must be within the limit imposed by University rules. It is essential that 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 "respiratory tract infection" or "injured foot" or similar will be rejected, as will certificates from chiropractors and acupuncturists. 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. Note that no excuses, medical or otherwise, are accepted by the Society of Actuaries or CFA Institute if a professional exam is missed.

Web Site

The timing of lecture coverage will likely deviate from the day-to-day schedule above. This outline and updates are at <http://www.utstat.utoronto.ca/sharp>. Assignments and other info are posted on the course Blackboard password-accessed portal – you will wish to monitor the portal every few days. Also please ensure that the portal 'knows' an email address for you which you monitor frequently, otherwise you'll miss course-related emails.

Marking Scheme:

Lecture: surprise quizzes	Obligatory attendance. Lectures will be only partially posted on the web. There will be at least five pop-quiz micro-tests in lecture during the term, not announced in advance. Material is usually new that day. For lecture quizzes (only) discussion with other students is OK, but not copying. Up to two can be missed without penalty. Graded 7-10. In the past, students detected doing quizzes for absent friends have been failed in the course.	5%
Tutorials: assignment verifications	Obligatory attendance. Assignment must be done but is not graded. In each tutorial for which an assignment is due, a verification quiz on at least one assignment question, perhaps slightly modified, will be given. This is intended as verification that you did the assignment so no help from other students allowed. Up to two can be missed without penalty. Graded 7-10.	5%
Test 1	Multiple choice; 40% of questions are modified from assignments	20%
Test 2	Multiple choice, 40% of questions are modified from assignments; concentrates on material since test 2	20%
Final	Multiple choice, on entire term, no 40% guarantee	50%

If you miss more than two in-lecture surprise quizzes and/or two tutorial verification quizzes, and claim medical reasons, you will need to show medical certificates for all missed quizzes, including the 'giftie' first two. Weightings will not be changed, either for the whole class or (for fairness to the whole class) for any individuals.

<i>Lecture</i>	M 10:00-12:00 (First Sep 12)	UTSG-WI 1016	
<i>Instructor and office hours</i> Keith Sharp PhD FSA FCIA CFA sharp@utstat.utoronto.ca http://utstat.utoronto.ca/sharp	M 09:00-10:00 T 11:30-12:30 T 04:00-05:00 R 11:30-12:30	UTSG-SS6007 UTSC-S-506F UTSG-SS6007 UTSC-S-506F	
<i>Tutorials (First Sep 23)</i> Hong Li (lhong768@yahoo.com) Nikita Reymer (nikita.buhrveyev@utoronto.ca) Panpan Wu (panpan@utstat.utoronto.ca)	F 10:00-11:00 F 10:00-11:00 F 10:00-11:00 (F 10:00-11:00)	WI 1016 WI 523 SS 1072 (SS 1083 in reserve)	<i>Family name</i> A-K L-S T-Z
Topic Coverage	Lecture and test date		
L01: Sec 01: Effective rates	Sep 12		
L02: Sec 02: Effective rates	Sep 12		
L03: Sec 02; Nominal rates, credit cards	Sep 19		
L04: Sec 03: Force of int, inflation	Sep 19		
L05: Sec 04: Annuity	Sep 26		
L06: Sec 04; Annuity (cont)	Sep 26		
TERM TEST 1 Location TBA	Oct 03 10:00 am		
L07: Sec 05: Annuity at any time point	Oct 03 11:00 am		
THANKSGIVING 2011	Oct 10		
L08: Sec 05: Annuity at any time (cont)	Oct 17		
L09: Sec 06: Different int and payt periods	Oct 17		
L10: Sec 07: Geometric prog of payments	Oct 17		
L11: Sec 07: Geom payts, indexed pension	Oct 24		
L11a: Sec 08: Arithmetic payments	Oct 24		
TERM TEST 2 in usual lecture room	Oct 31 10:00am		
L12: Sec 09: Amortization of loan	Oct 31 11:00am		
BREAK	Nov 7-8 M,T		
L13: Sec 09: Amortiz of loan, mortgage	Nov 14		
L13a: Sec 10: Sinking funds	Nov 14		
L14: Sec 11: Bond valuation	Nov 21		
L15a: Sec 12: Bond amort, callables	Nov 21		
L16: Sec 13: Return on fund	Nov 28		
L00: Exam run-up	Dec 5		
L00: Exam run-up	Dec 7 W 'makeup Monday'		
FINAL EXAM	Dec 09-20		

GOOD LUCK

Any omissions/suspected errors please email to me at sharp@utstat.utoronto.ca