

Spring 2016

8:00 – 9:50 TT Bouillon 210

Instructor: Dr. Cen-Tsong Lin**Office:** Bouillon 108B, Tel: 963-2842, E-mail: ctl@cwu.edu**Office Hours:** 9:00 – 9:50 Monday – Friday

Course Goals: Helping actuarial science students studying and pass exam FM/2. We will review the interest theory and financial economics topics that are important in actuarial science and study efficient ways of solving problems that might appear on Exam FM/2 which is administrated by Preliminary Actuarial Examinations/SOA.

Prerequisite: Math 418B, I assume students are concurrently enrolled in Math 418C

Required Text: Matthew J. Hassett, Michael I. Ratliff, Toni C. Garcia, Amy C. Steeby, *ACTEX FM/2 Study Manual, December 2014 Edition*, ACTEX Publications

Calculator: A **BA II Plus** calculator is recommended for writing SOA exams.

Tentative Schedule:

Week 1	4/1	Introduction, Module 1: Time value of money
Week 2	4/8	Module 2: Annuities
Week 3	4/15	Module 3: Loans
Week 4	4/22	Module 4: Bonds
Week 5	4/29	Module 5: Yield rate, module 6: Term Structure of Interest Rates;
Week 6	5/6	Module 7: Asset Liability Management, Duration and Immunization
Week 7	5/13	Module 8: Introduction to Derivatives Securities
Week 8	5/20	Module 9: Options, module 10: Investment Strategies,
Week 9	5/27	Module 11: Hedging, module 12: Forwards and Futures,
Week 10	6/3	Module 13: Forward Interest Rate, module 14: Swaps, module 15: Currency Forward Contracts

Evaluation:

- Homework assignments 30%
- In class practice tests 40%
- Final exam 30%

Homework: Homework assignments are the **SAMPLE EXAM PROBLEMS** in each module. Use a separate notebook for this work. By the end of the quarter, turn in the notebook for a grade.

In class practice tests: Each meeting a 30-minute, 5-question (multiple-choice) practice test will be given, those tests will be graded and returned in the following meeting.

Final Exam: 20 multiple-choice questions, 8 - 10, Monday, 6/6/2016.

Exam FM/2 Information:

- The Financial Mathematics exam is called Exam FM by the SOA and Exam 2 by the CAS. This three-hour exam consists of 35 multiple-choice questions. The examination is administered by Preliminary Actuarial Examinations/SOA. The examination is jointly sponsored and administered by the CAS, SOA, and the Canadian Institute of Actuaries (CIA). The examination is also jointly sponsored by the American Academy of Actuaries (AAA) and the Conference of Consulting Actuaries (CCA).

- The Learning Objectives of Exam FM/2 is available from the website of **Society of Actuaries** (<https://www.soa.org/education/exam-req/edu-exam-fm-detail.aspx>)

I. Interest Theory (65-80%)

- A. Time Value of Money (5-15%)
- B. Annuities with payments that are not contingent (5-20%)
- C. Loans (5-20%)
- D. Bonds (5-20%)
- E. General Cash Flows and Portfolios (5-20%)
- F. Immunization (5-15%)

II. Financial Economics (20-35%)

- A. General Derivatives (0-5%)
- B. Options (5-10%)
- C. Hedging and Investment Strategies (5-15%)
- D. Forwards and Futures (0-10%)5463
- E. Swaps (0-5%)

- Date and deadlines: (six times a year)

<u>Administration</u>	<u>Registration Deadlines</u>	<u>CBT Dates</u>
April 2016	Feb 29	April 7 - 18
June 2016	May 2	June 9 – 20
August 2016	June 27	August 4 - 15
October 2016	September 6	October 13 - 24
December 2016	October 31	December 6 - 17

- Fees: \$225.00