

**Math 416A Winter 2008**  
**Actuarial Problems II**

**Instructor:** Dr. Kathy Temple

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**Office Hours:** MWF 11:00 - 11:50 AM, Th 2:00 - 2:50 PM, and by appointment.

**Course Goals:** First, to study and review the probability and mathematical statistics topics that are important in actuarial science. Second, to discuss and present efficient ways of solving probability problems that will appear on Exam 1/P of the SOA/CAS.

**Prerequisite:** Math 411A or permission. I will also assume that everyone is enrolled in Math 411B concurrently.

**Required Text:** Samuel A. Broverman, *ACTEX Study Manual for SOA Exam P/CAS Exam 1*, 2007 Edition, ACTEX Publications.

**Chapters Covered:** Chapters 1 - 10. Yes, really. You may wish to refer to Chapter 0 as necessary for algebra and calculus topics.

**Evaluation:**

- Homework (40%)
- In-class quizzes, tentatively three (30%); tentatively scheduled for Wednesday, Jan. 30, Wednesday, Feb. 13, and Wednesday, Feb. 27.
- Comprehensive final exam (20%); given Tuesday, March 11, 8-10 AM
- Class participation (10%)

**Calculator:** A calculator suitable for use on Exam 1/P is required. I recommend the TI-30XII (S or B depending on whether you want solar or battery power).

**Class Format:** A schedule of what sections will be covered when is below. Before the Monday class each week you should read the assigned section and complete as many of the problems as you can. On Mondays, we will take questions and discuss problems which are causing particular difficulties. I may also call upon students to present their solutions to problems. At the Wednesday class, I will give you a set of problems to work on. There will be in-class quizzes on (tentatively) three Wednesdays, given above; more on this below. On weeks where Monday is a holiday, the Wednesday class will be a combination of what we normally do on the two class days. You should bring your study manual and calculator to each class.

**Homework:** Homework should be kept in a binder or notebook. At Wednesday class, you will hand in this binder/notebook to be checked. It is to your benefit to keep this as neat as possible! Notebooks should be available to be picked up from me by Wednesday at 2:30, or at 413 for those taking that class. On weeks where Monday is a holiday, homework is due to me Thursday by 2 and may be picked up at 411 on Friday morning.

**In-class quizzes:** Periodically throughout the quarter, Wednesdays will be devoted to in-class 'quizzes'. These are designed to give you some practice working under timed conditions. They

will be comparable in length to a scaled-down version of the actuarial exam, and will be cumulative over all material we have covered at that point. Remember that these are designed to be practice, and to show you what you still need to work on!

**Final Exam:** The final exam will be a scaled version of a practice exam.

**Miscellaneous:**

- I encourage you to form study groups; however, do remember that eventually you will have to be able to solve these problems on your own.
- Reading the study manual and working problems ahead of Monday class is crucial to succeed in this course! This class will likely be more work than a typical two-credit course - but remember that it's all work you'd need to do to study for the exam, anyway.
- I reserve the right to adjust or modify this syllabus during the course of the quarter. If you have feedback about the structure of the course, please let me know.

**Tentative Schedule:**

January 7 and 9: Section 1; start section 2

January 14 and 16: Sections 2 and 3

January 23: Section 4

January 28 and 30: Section 5; Quiz 1

February 4 and 6: Section 6

February 11 and 13: Section 7; Quiz 2

February 20: Section 8

February 25 and 27: Section 9; Quiz 3

March 3 and 5: Section 10 (note: this section requires careful attention!)

March 11, Tuesday: Final exam, 8-10 AM.