

MA 458 ACTUARIAL MODELS - LIFE CONTINGENCIES (SPRING 2015)

Time and Place. M,W,F 8:00-9:20, E380

Instructor. Dr. Gabriela Sanchis, 384 G Esbenshade Hall, Office Phone: 361-1339

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Office Hours. M, T, Th: 1–2:30 p.m. W: 9:30-11:00; and by appointment.

Textbook. ASM Study Manual for Exam MLC (14th Edition) by Abraham Weishaus

Prerequisites. Ma 255 (Mathematics of Compound Interest) and Ma 351 (Theory of Probability)

Course Content. We will cover the following topics.

- Survival Distributions (Lessons 2–8)
- Insurances (Lessons 10–15)
- Annuities (Lessons 17–22)
- Premiums (Lessons 24–32)
- Reserves (Lessons 43–41)
- Markov Chains (Lessons 43–45)
- Multiple Decrements (Lessons 46–51)
- Multiple Lives (Lessons 53–59)
- Pensions (Lesson 61)
- Other Topics (Lessons 62–69)

Learning Outcomes. Successful students will

- use appropriate mathematical models to quantify the major types of risks that actuaries must analyze;
- become independent learners who can successfully study for and pass actuarial exams.

Attendance. You are expected to attend all classes. Excessive amounts of absenteeism may result in a lower grade. If you do miss a class, it is your responsibility to obtain from a classmate any notes, assignments, handouts, or anything else you may have missed.

Calculator. The only calculators permitted in this course are the ones approved by the Society of Actuaries (SOA) in their catalog. SOA permits on their exams only the following calculators:

- the battery- or solar-powered Texas Instruments BA-35 model calculator,
- the BA II Plus, the BA II Plus Professional,
- the TI-30Xa or TI-30X II (IIS solar or IIB battery),
- the TI-30XS Multiview or the TI-30XB Multiview.

Candidates may use more than one of the approved calculators during an examination.

For this course you are welcome to use any and all of these calculators.

Homework. I will assign problems as we progress through the material. You should do these immediately after they are assigned. The ASM manual contains detailed solutions to all the problems.

Quizzes. There will be weekly quizzes, to be taken outside of class. Each quiz will consist of questions taken directly from the assigned homework. The lowest quiz grade will be dropped.

Problem Sets. There will be several problem sets, which will be collected and graded.

Exams. The comprehensive final exam is scheduled for Monday May 4, 7:30 - 10:30 a.m. The Life Contingencies segment of Exam M (MLC) is scheduled for Tuesday April 28, 8:30 a.m. - 12:45 p.m. The registration deadline is Wednesday, March 25. The MLC test consists of 20 multiple-choice questions, each worth 2 points, and 56 points for written-answer questions. Only candidates with scores above a certain threshold on the multiple-choice portion of the exam will have their written-answer portion graded.

Grading. 94-100 A; 90-93 A-; 87-89 B+; 83-86 B; 80-82 B-; 77-79 C+; 73-76 C; 70-72 C-; 67-69 D+; 63-66 D; 60-62 D-; below 60 F

Course grades will be calculated according to the following weighting:

Problem Sets: 30%

Quizzes: 50%

Final Exam: 20%

Academic Integrity. All work must be one's own and must comply with the Standards of Academic Integrity defined in the Elizabethtown College Catalog (see <http://catalog.etown.edu/> and then click on **Academic Policies** in the menu on the left, and then on **Academic Judicial System**).

Disability. Elizabethtown College welcomes otherwise qualified students with disabilities to participate in all of its courses, programs, services, and activities. If you have a documented disability and would like to request accommodations in order to fully participate in course activities and/or meet course requirements, please contact the Director of Disability Services, Lynne Davies, by phone (361-1227) or e-mail daviesl@etown.edu. If your documentation meets the college's documentation guidelines, you will be given a letter from Disability Services for each of your professors. Students experiencing certain documented temporary conditions, such as post-concussive symptoms, may also qualify for temporary academic accommodations and adjustments. As early as possible in the semester, set up an appointment to meet with me, the instructor, to discuss the academic adjustments specified in your accommodations letter as they pertain to my class.