

MATH 416A ACTUARIAL SCIENCE PROBLEMS II
WINTER 2020 (Jan 7 – Mar 13)
TTh 11 - 11:50am in SAMUELSON 115

Instructor: Dr. Sooie-Hoe Loke
E-mail: SooieHoe.Loke@cwu.edu
Phone: (509) 963-2602

Office: Samuelson 218H
Office Hours: MTWTh 10 - 10:50am and by appointment

Required Text: ACTEX Study Manual for Exam P

Course Description: Review of topics in probability theory important for actuaries, including probabilities, random variables, moments, discrete, continuous, joint, and conditional distributions, and limit theorems.

Course Goals: Upon successful completion of this course, the student will be able to:

- Solve problems involving probabilities, conditional probabilities, and continuous and discrete random variables.
- Summarize common families of discrete and continuous probability distributions.
- Apply terminology from insurance to probability questions.
- Choose appropriate tools from probability to solve problems similar to those on the actuarial Exam P.

Pre- or co-requisite: Math 411B

Course Assessment: Your overall grade will be determined by the following:

- Homework (35%)
- Section Summaries (10%)
- Individual Quizzes (20%)
- Group Quizzes (10%)
- Comprehensive final exam (25%); given Wednesday, Mar 18, 10am – 12pm

Course grades will be assigned based upon the following scale:

93-100%=A 90-92.9%=A- 87-89.9%=B+ 83-86.9%=B 80-82.9%=B- 77-79.9%=C+ 73-76.9%=C
70-72.9%=C- 67-69.9%=D+ 63-66.9%=D 60-62.9%=D- below 60%=F

The instructor reserves the right to adjust the above scale (in the student's favor) if deemed appropriate.

Required calculator: You will need one of these scientific calculators. Any other calculators are not allowed. Graphing calculators are also not allowed.

- BA-35
- BA II Plus
- BA II Plus Professional
- TI-30Xa
- TI-30X II (IIS solar or IIB battery)
- TI-30XS MultiView (or XB battery)

Homework: Expect to be working about 25-30 problems per week (some weeks may be a bit more). Credit will not be given for late homework (see course calendar). We'll work through all of the topics in the ACTEX manual over the course of the quarter, with some time for review at the end.

Section Summaries: On the same day when homework is due, you will also turn in "section summaries" of the assigned sections for the week. These section summaries should include any important definitions, results, and formulas (no examples!) from the sections assigned for the week. Try to distill the information as much as possible while still including the important points. The goal with these is that you can use the summaries as "cheat sheets" for your exam studying.

Quizzes: A total of six quizzes will be given throughout the quarter (see course calendar). They will be cumulative over everything we've covered so far this quarter in our review. You'll be allowed to use your section summaries on the quizzes within reason (see course calendar) for the first couple weeks after we cover that section. There will be no make-up quizzes. The quizzes will consist of multiple choice questions and partial credit will be given if you show appropriate work and steps leading to your answer.

Individual Quizzes: You will be completing these quizzes on your own during class period.

Group Quizzes: You will be completing these quizzes with a randomly assigned partner during class period. Each group will turn in one solution. The lowest group quiz score will be dropped.

Exam P Information: The Probability Exam is a 3-hour exam that consists of 30 multiple-choice questions and is administered as a computer-based test (CBT). The exam is offered 6 times a year. Ideally you should be registering for the one in March, which will be administered from March 20 – 31. For the March exam, the registration deadline is on FEBRUARY 18. Please register as soon as possible, so that that you can choose your preferred exam date and location. For more information about the exam, visit <https://www.soa.org/education/exam-req/edu-exam-p-detail/>

Academic Honesty: Consult university policies ([CWUP 5-90-040\(22\)](#), [CWUR 2-90-040\(22\)](#), and [WAC 106-125-020](#)) for student conduct, cheating, plagiarism, and other academic expectations. CWU's policies and recommendations for academic misconduct will be followed, leading to disciplinary action up to and including failing the course.

Diversity Statement: CWU expects every member of the university community to contribute to an inclusive and respectful culture for all in its classrooms, work environments, and at campus events. As a student in this course, you are expected to treat your professors, fellow students, and other people affiliated with your work at CWU with respect, regardless of their sex, race and color, religion and creed, national origin, sexual orientation, gender identify and gender expression, disability and use of assistive devices or a service animal, and veteran or military status.

Disability Support Services: CWU is committed to creating a learning environment that meets the needs of its diverse student body. Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations: Hogue Hall 126, (509) 963-2214, ds@cwu.edu

Religious Holiday Absences: In compliance with RCW 28B.137.010, CWU makes every effort to deal reasonably and fairly with students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Students must present written notice to their instructor within the first two weeks of class listing the specific dates on which accommodations are required. Contact the Dean of Student Success at (509) 963-1515 for further information or questions.

Expectations for Student Conduct: Students in this class are expected to interact with students and the professor professionally. Instances of disruptive conduct¹, obstructive conduct¹, or harassment² will be referred to the Dean of Student Success.

The instructor reserves the right to change the policies contained in this syllabus as dictated by developments during the quarter. Changes will be announced in class and on Canvas.

1. Per WAC 106-125-020, the term "disruptive" or "obstructive" conduct means conduct, not protected by law, that interferes with, impedes, or otherwise unreasonably hinders the normal teaching, learning, research, administrative, or other functions, procedures, services, programs, or activities of the university. The term includes disorderly conduct, breach of the peace, violation of local or university noise policies, lewd or obscene conduct, obstruction of pedestrian or vehicular traffic, tampering with student election processes, or interfering with the orderly conduct of university investigations or disciplinary proceedings, including interfering with or retaliating against any witness, party, or other participant.
2. The term "harassment" means unwelcome and offensive conduct, including verbal, nonverbal, or physical conduct, that is directed at a person because of such person's protected status and that is sufficiently serious as to deny or limit the ability of a student to participate in or benefit from the university's educational program, or that creates an intimidating, hostile, or offensive environment for any campus community member(s). Protected status includes a person's actual or perceived race, color, national origin, gender, disability, or other status protected by law.