

MA388 Actuarial Seminar

Spring 2021

Instructor: Dr. Weihong Ni

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Course Description: This is an exam preparation course for the Society of Actuaries P exam which involves the study of combinatorics, discrete and continuous random variables of one and two dimensions, expectations, commonly used probability models, and normal approximation. Students will also learn to apply these techniques under the risk management contexts.

Learning Outcomes: Upon completion of the course, students should be able to:

- Understand basic probability concepts.
- Understand both univariate and multivariate random variables and their applications.
- Develop knowledge of the fundamental tools for assessing risk especially under the actuarial context.
- Understand the basics of risk management.

Prerequisite: MA341 Probability

Meeting time and place: TR 10:20 - Noon EST Synchronous Zoom sessions

Final exam: May 11, 2021 T 9:00 - Noon EST

Required course material:

- Coaching Actuaries Manual (purchasing information to be sent by email)

Recommended Textbooks:

- *Probability and Statistical Inference*, 9th Edition, by Hogg and Tanis and Zimmerman, Prentice Hall, 2015. ISBN-13: 978-0321923271/ISBN-10: 0321923278
- *ACTEX Exam P Study Manual*, by S. Broverman, ACTEX Learning, <https://www.actexamdriver.com/OrderSelection.aspx?terms=>

Help Outside of Class:

1. Me: My available time slots will be published on Canvas calendar on the Sunday prior to each week. You must make a reservation before the actual time of the meeting. Zoom links for the meeting can be found on the appointment page once your appointment is successfully made.
2. Your Classmates: Talk to other students in the class to see if they can help you. Consider forming small study groups so that each of you can contribute. While I encourage you to study together, collected homework problems must represent your own work.
3. LRN Tutors: You may consult a tutor from Arcadia's Learning Resource Network. To talk to a tutor virtually, please enroll in the VLRN at this link - <https://arcadia.instructure.com/enroll/476LYR>.

Attendance: Full attendance is expected from all students. Active participation in class discussions will boost your final score especially in borderline situations.

Technical Requirements: You will need the following in order to participate in this course:

- Computer or tablet
- Reliable internet connection
- Microphone/Webcam
- Access to Canvas using a supported web browser

Calculators: Use of the SOA approved models from Texas Instruments calculators is highly recommended:

- 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)

If you do not own a calculator, you can borrow one from our department. Please contact Ms. Taliyah Dean at Boyer Hall 110A or by email deant@arcadia.edu for a rental calculator. If you do choose to rent a calculator from us, then you must return it (or pay to replace it) before receiving any of your semester grades. In an online environment, you are also allowed to use Excel for running complex calculations.

Homework: Homework will be regularly assigned via Coaching Actuaries (<https://coachingactuaries.com/>). The deadline of each assignment is clearly indicated and strictly monitored by the system. Late or missing submissions will automatically result in 0 point for the corresponding homework. Randomly chosen students will be asked to explain selected homework questions during the subsequent class. 20% of the grade for each of your assignment comes from the scores you obtain from Coaching Actuaries, and 80% depends on the qualities of problem presentations in class.

Course Assessment & Grades: The final grade is built up through two exams, a final exam and quizzes taken over the course of the semester. Please check below for their respective weights.

Assessment	Weight
Homework	10%
Exam 1	20%
Exam 2	20%
Final exam	25%
Quizzes	25% ($5\% \times 4 + 2.5\% \times 2$)

Tentative dates for the two exams are: Thursday, Feb 25 and Thursday, Apr 15. The final exam starts at 9:00 am Tuesday May 11. I intend to give you a total of 6 in-class written quizzes throughout the semester, among which the lowest two scores will be weighted half compared to the others. **It is very important that you take quizzes and exams on the scheduled dates. If an emergency arises which prevents you from taking an exam or quiz at the scheduled time, you must inform me at your earliest convenience.**

Below please find the mapping from number to letter grades to be used in this course.

Letter Grade	Numeric Grade
A	93 - 100
A-	90 - 92.99
B+	87 - 89.99
B	83 - 86.99
B-	80 - 82.99
C+	77 - 79.99
C	73 - 76.99
C-	70 - 72.99
D	60 - 66.99
F	0 - 59.99

Submitting Assignments: All submissions including homework assignments, quizzes and exams should be done via Canvas. Submission links will be provided under each assignment/assessment page.

How will I know how I am doing in this course? Grades will be posted on Canvas as soon as your work has been graded. Since Canvas keeps track of all of your grades, you should always be able to calculate your current grade in the course. If you need assistance, please contact me.

Late Work: Late submission of all course work will [NOT] be accepted. In an event of unforeseen circumstances which prevent you from submitting your work on time, you should contact me to discuss a solution on a case by case basis.

Academic Honesty: The instructor takes academic honesty very seriously. On tests or quizzes, the first infraction will result in a zero on the quiz, problem set or exam; the second will result in an F for the course. A student who is uncertain about what constitutes plagiarism, should consult both the student handbook and the instructor. Both the instructor and student maintain the right to refer any issue to Arcadia's Judicial Board.

Email communication statement: I will on occasion send important class-related Canvas Announcement/email to your Arcadia account. It is your responsibility to log in daily to see if there are any messages from me. Thank you.

Disability statement: Arcadia University provides reasonable accommodations for students with documented disabilities. If you require accommodations or other academic supports due to a physical, psychological, psychiatric or learning disability, you should contact Disability Support Services at 215-572-4033.

Title IX statement: Arcadia University is committed to assuring a safe and productive educational environment for all students. In order to meet this commitment and to comply with Title IX of the Education Amendments of 1972 and guidance from the Office for Civil Rights, the University requires faculty members to report incidents of sexual violence shared by students to the University's Title IX Coordinator. The only exceptions a faculty member's reporting obligation are when incidents of sexual violence are communicated by a student during a classroom discussion, in a writing assignment for a class, or as part of a University-approved research project. Information regarding the reporting of sexual violence and the resources that are available to victims of sexual violence is set forth at <https://www.arcadia.edu/university/policies-guidelines/title-ix>.