MATH 419B LONG-TERM ACTUARIAL MATHEMATICS II
WINTER 2019 (Jan 3 – Mar 8)
MTThF 11 - 11:50am in SAMUELSON 117

Instructor: Dr. Sooie-Hoe Loke
E-mail: SooieHoe.Loke@cwu.edu
Phone: (509) 963-2602
Office: Samuelson 218H
Office Hours: MTThF 10am-11am and by appointment

Required Text: Dickson, D. C., Hardy, M., Hardy, M. R., & Waters, H. R. (2013). *Actuarial mathematics for life contingent risks*. Second edition. Cambridge University Press. We'll be covering Chapters 6 – 9 this quarter.

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

- Compare and contrast long-term coverages in insurance (life, health, general) and retirement benefits (pensions, retiree health care).
- Estimate survival models using nonparametric methods.
- Formulate Markov chain survival models.
- Estimate model quantities using approximations for fractional ages.
- Design an appropriate actuarial model for a given situation or application.
- Assess the appropriateness of an actuarial model for a given application.

Prerequisite: MATH 419A or permission.

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

- Two in-class exams (35% total); tentative dates: Mon, Jan 28 and Mon, Feb 25
- Comprehensive final exam (25%); given Wed, Mar. 13, from 8 – 10am
- Homework (30%)
- Problem session, presentation, and participation (10%); see below for more information.

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: A scientific or graphing calculator is also required. If you are planning to take Exam LTAM (see below), some recommended calculators are TI-30Xa, TI-30X II (IIS solar or IIB battery), or TI-30XS MultiView (or XB).

Exam LTAM: The 419ABC sequence covers the SOA Exam LTAM material. For more information regarding Exam LTAM, see https://www.soa.org/Education/Exam-Req/edu-exam-ltam-detail.aspx

Homework: Weekly homework will be assigned in class. Due dates will be announced at the time of the assignment. Homework must be done neatly, stapled, and written on clean-edged paper. Your work should be clear, in a logical order, and provide sufficient explanation. Credit will not be given for late homework. Collaboration on homework is permitted, but **copying is not permitted. You must write up every problem on your own**, even if you worked with others to figure it out. Credit will not be given to any party for work which is identical.

Exams: Any changes to the tentative exam schedule will be announced in advance. Make-up arrangements must be made at least one day prior to an exam unless you can document an unexpected circumstance beyond your control that prevented you from taking the exam.

Problem Session, Presentation, and Participation: We will have weekly "problem sessions" throughout the quarter, where instead of covering new material in class you will be given several problems to work on. At the end of class, you will be assigned to write-up the solutions to these problems. You will also be presenting your solutions using the doc cam sometime in the next couple of class days. These problems must also be written up neatly and given to me either electronically or in a form suitable for scanning by class time on the third class day after the problems are distributed. You are required to present/write-up at least TWO problems over the course of the quarter. When presenting or writing up a problem, remember that it needs to be understandable to your fellow students. You are expected to attend, fully participate, and make a sincere effort in every problem session (not making a sincere effort includes working on material for other courses, chatting, leaving early, etc. and will result in lower participation grade)

Other Information: Central Washington University is committed to creating a learning environment that meets the needs of its diverse student body. If you anticipate or experience any barriers to learning, discuss your concerns with the instructor. Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations. Student Disability Services is located in Hogue 126. Call (509) 963-2214 or email ds@cwu.edu for more information.

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.