

22S: 174 - Quantitative Methods for Actuaries

Instructor: Dr. Qihe Tang

- Office: 360 SH; Phone: (319) 335-0730; E-mail: qihe-tang@uiowa.edu
- Course Schedule: 2:30p-3:20p, Monday, Wednesday, and Friday, 140 SH
- Office Hours: 4:30p-5:30p, Monday, Wednesday, and Friday, or by appointment
- ICON Website: <http://icon.uiowa.edu>
(Visit this site DAILY to get my teaching material.)

Department: Statistics and Actuarial Science

- General Office: 241 SH; Phone: (319) 335-0712
- Chair: Dr. Luke Tierney; E-mail: luke-tierney@uiowa.edu; Phone: (319) 335-0712

Special Arrangements

I would like to hear from anyone who has a disability which may require some modification of seating, testing or other class requirements so that appropriate arrangements may be made. Please contact me as soon as possible about this.

Text

- **Textbook 1:** Pettofrezzo, Anthony J. *Introductory Numerical Analysis* (Dover Books on Mathematics). 1967.
- **Textbook 2:** Bowers, Newton L.; Gerber, Hans U.; Hickman, James C.; Jones, Donald A.; Nesbitt, Cecil *Actuarial Mathematics* (2nd ed.) 1997.
- **Optional Text:** Gauger, Michael A.; Ostaszewski, Krzysztof M. *Solutions Manual for Actuarial Mathematics*. 2005.

Content and Description

The main goal of this course is to learn some basic concepts and methodologies of numerical analysis, individual risk models, and life tables. Below is the approximate schedule:

1. **Week 1-5:** I intend to cover the following material of Pettofrezzo (1967):
 - Chapter 1, Sections 1-5
 - Chapter 2, Sections 1-3
 - Chapter 3, Section 3
 - Chapter 4, Section 4
 - Chapter 5, Sections 2 and 7

2. **Week 6-10:** I intend to cover the following material of Bowers et al. (1997):
 Chapter 1, Sections 1.1-1.5
 Chapter 2, Sections 2.1-2.5
3. **Week 11-15:** I intend to cover the following material of Bowers et al. (1997):
 Chapter 3, Sections 3.1-3.8

Evaluation System

Please keep in mind that I might check your attendance without informing you in advance and that your absence might affect your final overall grade.

1. Homework: 10%

Roughly, there is one homework each week, with three to five questions. Normally, I assign the questions every Friday and ask you to hand in your solutions at the beginning of the class on the following Friday.

You are always welcome to discuss homework problems with me during my office hours or by appointment. You are also encouraged to discuss homework problems with other students. However, what you hand in must ultimately be your own work.

2. Midterms: $18\% \times 3 = 54\%$

There are three closed-book midterms, consisting of short-answer type questions. The schedules of these midterms are:

- 5:30p–7:00p, Monday, September 24, in room 107 EPB
- 5:30p–7:00p, Monday, October 22, in room 107 EPB
- 5:30p–7:00p, Thursday, November 15, in room LR2 VAN

There are NO classes on September 24, October 22, and November 16 because of these midterms.

3. Final: 36%

The final exam is held on Tuesday, December 18, at 7:30a.m.-9:30a.m., in room TBD. Similar to the midterms, it is closed-book and consists of short-answer type questions.

4. Grading

Your grade will be assigned according to the following:

F (0–39.9)		
D- (40–44.9)	D (45–49.9)	D+ (50–54.9)
C- (55–59.9)	C (60–64.9)	C+ (65–69.9)
B- (70–74.9)	B (75–79.9)	B+ (80–84.9)
A- (85–89.9)	A (90–94.9)	A+ (95–100)

This is not an absolute scale. It may be adjusted depending on the difficulty of the exams. Graduate students are expected to have a better performance.