

Math/Stat 170: Introduction to Actuarial Science

Instructors: Nicholas Wegman (njwegman@math.purdue.edu)

Office: Math 719

Office Hours: T 10:30-11:30, TH 11:30-12:30, or by appointment

Graduate
Teaching Assistant: Sung Ahn (ahn8@purdue.edu)

Office: Math 707

Office Hours: M 2:00-3:00, W 2:00-3:00, or by appointment

Website <http://www.math.purdue.edu/~rcp/MA170/MathStat170.html>

General Information

The notes for the Interest Theory portion of the class are on the website.

Calculators

On tests, you may only use one of the following calculators:

TI-30Xa

TI-30XIIS

TI-30XIIB

TI-30XS MultiView

TI-30XB MultiView

These are all made by Texas Instruments. None are financial calculators. The proctor will check your calculator before the exam. If you don't have an approved calculator, and cannot borrow one, you will be required to take a make-up exam at a later date, using an approved calculator, and will receive a 10 point penalty. **If you are found using an unapproved calculator during an exam, you will get a zero for the exam.**

Many of the problems in this class can be solved simply with a financial calculator. In this class, you will always be expected to solve the problems using the formulas, not using a financial calculator. On both homework and exams you will be required to "show work" which means writing down the formulas being used.

Procedures

There will be frequent homework, a midterm test, and a final exam. There may also be some quizzes.

For homework, quizzes, and tests, answers are expected to include all the work necessary to do the problem.

Homework and Quizzes	14%
Exams	50% (2@25 % each)
Lab Projects	30% (3% each except for Labs 6 & 7 which are 6% each)
Attendance: Required at all talks	6% (1% each)

All work in this class must be your own. You may discuss the labs with a classmate, but you must complete the lab independently. **Copying any portion of someone else's lab, no matter how small the portion, or allowing any portion of your lab to be copied, is considered cheating and will result in an automatic zero on the lab for all parties involved.**

Academic Adjustments

Students who have been certified by the Office of the Dean of Students -- Adaptive Programs as eligible for academic adjustments should go to MATH 242 and request an Information Sheet for this semester that explains how to proceed this semester to get these adjustments made in Mathematics courses. This should be done during the first week of classes. Only students who have been certified by the ODOS-Adaptive Programs and who have requested ODOS to send their certification letters to their instructors are eligible for academic adjustments.

Students, who are currently undergoing an evaluation process to determine whether they are eligible for academic adjustments, are encouraged to find out now what procedures they will have to follow when they are certified, by requesting the above mentioned Information Sheet from MATH 242.

Large print copies of the Information Sheet are available from MATH 242 upon request.

Course Outline

While this outline tries to be complete and accurate, there **will** be changes in the schedule of the course; these will be announced in class and on the web. The meetings highlighted in **yellow** are in **LYNN 1136**. Those highlighted in **red** are required attendance.

Date	Topic
8/23	What is an actuary?, Mark, Ward, Associate Director Actuarial Science Program
8/25	Lab 1: Mortality Table
8/30	Interest Theory, Assignment #1 due
9/1	Interest Theory LYNN 1136, Assignment #2 due
9/6	Interest Theory, Assignment #3 due
9/8	Lab 2: PU Life Profit
9/13	Anne Jackson, Milliman Consulting Actuary
9/15	Interest Theory LYNN 1136, Assignment #4 due
9/20	Seb Kleber, Swiss-Re Re-Insurance
9/22	Interest Theory LYNN 1136, Assignment #5 due
9/27	Interest Theory, Assignment #6 due
9/29	Interest Theory LYNN 1136, Assignment #7 due
10/4	Andy Henn, Wellpoint Pension Actuary
10/6	Lab 3: Pricing an Annuity
10/11	No Class – FALL BREAK
10/13	Lab 4: Pricing: Term
10/18	Interest Theory (Exam Review)
10/20	Midterm exam, During Lab Time: Bring an approved calculator!
10/25	Intro to Lab 6 (Jim Miles, independent consultant)
10/27	Lab 6: (Cont.)
11/1	Lab 6: (Conclusion) Life Insurance Pricing:
11/3	Principles of Insurance – Chapter 1 LYNN 1136, Assignment #8 due
11/8	Principles of Insurance – Chapter 2, Assignment #9 due
11/10	Lab 5: Macros
11/15	Ken Fikes The Infinite Actuary
11/17	Lab 7: Claim Reserves
11/22	Rate Making and Loss Reserving – Chapter 2, Assignment #10 due
11/24	Thanksgiving!
11/29	Logan P. Harrison, Director of Health Care Reform, Indiana Department of Insurance
12/1	Lab 8: Probability
12/6	Rate Making and Loss Reserving – Chapter 2, Assignment #11 due
12/8	Review for Final LYNN 1136, Assignment #12 due
Finals Week	Final: Bring an approved calculator!