



STAT 472: FAM-L
Long Term Fundamentals of Actuarial Mathematics
Spring 2024

Lecture: MTHW 304 on Tues/Thurs 9:00 – 10:15 AM

Lab: SCHM 314 Wed 10:30-11:20 AM (002), 11:30-12:20 PM (003), or 1:30-2:20 PM (004)

Office Hours: Tues/Thur 1:30 – 2:30 PM in MA 813 or via WebEx*

Additional Virtual Office Hours via WebEx*:

Mon/Wed in January from 9:00 – 10:00 PM

Mon/Wed in February – end of semester from 8:00 – 9:00 PM

Contact Information

Instructor	Sally Ray
Office	MA 813
Cell Phone	(765) 441-2098
Email	sallyray@purdue.edu
Website	http://www.math.purdue.edu/~sallyray/

Course Description

This 4-credit hour course will cover the learning objectives for the Society of Actuaries Examination FAM-L. The Learning Outcomes and Objectives can be found [here](#).

Communication

- *Email:* Main method of communication, please check daily
- *Brightspace:* Gradebook, group project submissions
- *Variate:* Homework

Textbooks

- *Required:* none
- *Optional:* Actuarial Mathematics for Life Contingent Risks, Third Edition by David C. M. Dickson, Mary R. Hardy, Howard R. Waters

Calculators

You may only use calculator(s) from the following list as these are the only calculators permitted for use by the Society of Actuaries. Use of any other calculator will not be permit

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

*WebEx instructions at the back of the syllabus

There are mortality and other tables that we will be using as part of class on a regular basis that will be passed out on the first day. It is expected that you will have these with you for class each day. **Please bring your calculator(s) and tables to each class.**

Class Structure

Evaluation will be based on a combination of the following:

- *Quizzes and Tests*
 - Closed book and closed notes
 - 6 quizzes, with lowest quiz score dropped
 - 3 non-cumulative tests – 2 midterms and final
 - Midterms – ~~75 minutes during class~~ 1 hour from 8:00 – 9:00 PM GRIS 103
 - Final – 2 hours during finals week
- *Homework*
 - Online using Variate
 - Due Tuesdays and Fridays by ~~9:00 AM~~ 11:59 PM
 - One extension permitted – must notify in advance of original due date
 - Lowest homework scores will be dropped
- *Group Projects*
 - 8 in-class group projects
 - 2 individual in-class projects; interim during 50-minute class, final during 75-minute class
 - All projects are excel-based and will require the use of a laptop.
 - Attendance required, no make-ups permitted for any reason.
- *One-on-One Meeting*
 - One required 10-minute meeting
 - It is your responsibility to schedule this meeting. If you schedule and attend this meeting, you will earn 1% toward your final grade.
 - Google doc will be available for sign-up the first week of class.

Classroom Procedures and Attendance

This course follows Purdue's academic regulations regarding attendance, which states that students are expected to be present for every meeting of the classes in which they are enrolled. When conflicts or absences can be anticipated, such as for many University-sponsored activities and religious observations, you should inform me of the situation as far in advance as possible. For unanticipated or emergency absences when advance notification is not possible, contact me as soon as possible by email or phone.

For cases that fall under excused absence regulations, you or your representative should contact or go to the [Office of the Dean of Students \(ODOS\) website](#) to complete appropriate forms for instructor notification. Under academic regulations, excused absences may be granted by ODOS for cases of grief/bereavement, military service, jury duty, parenting leave, or emergent medical care. The processes are detailed, so plan ahead.

Grade Distribution

Final grades will be determined using the following weights.

University Letter Grade	
Quizzes	20%
Homework	5%
One-on-One Meeting	1%
Group Projects	8%
Interim Individual Project	2%
Final Individual Project	4%
Test 1	20%
Test 2	20%
Final	20%
Total	100%

Grading Scale

Grades will be on a plus/minus scale as follows:

Below 60	60- 62.9	63- 66.9	67- 69.9	70- 72.9	73- 76.9	77- 79.9	80- 82.9	83- 86.9	87- 89.9	90- 92.9	93- 99.4	Above 99.5
F	D-	D	D+	C-	C	C+	B-	B	B+	A-	A	A+

Academic Integrity

Academic integrity is one of the highest values that Purdue University holds. This course follows the guidelines outlined in Brightspace concerning Academic Integrity.

If you cheat on a quiz, the penalty is a zero on the quiz and you will lose 5% of the total score for the class. The score of zero will not be dropped. If you cheat on a test or group project, you will receive a failing grade in this class.

Students can report issues of academic integrity that they observe, either through the Office of the Dean of Students (purdue.edu/odos), call (765) 494-8778 or email integrity@purdue.edu.

Course Schedule

In order to satisfy the learning objectives and learning outcomes in the SOA syllabus, we will roughly follow the following schedule.

- Weeks 1-2: Chapter 1-2
- Weeks 3-4: Chapter 3
- Weeks 5-7: Chapter 4
- Weeks 8-10: Chapter 5
- Weeks 11-12: Chapter 6
- Weeks 13-15: Chapter 7

Quiz, Test, Project Schedule							
Week	Tues	Wed	Thurs	Week	Tues	Wed	Thurs
1 – 1/8			Q1	Spring Break			
2 – 1/15				10 – 3/18		P5	
3 – 1/22	Q2	GD		11 – 3/25	Q5	P6	
4 – 1/29		P1		12 – 4/1		T2	T2
5 – 2/5	Q3	P2		13 – 4/8		P7	
6 – 2/12		T1	T1	14 – 4/15	Q6	P8	
7 – 2/19		P3		15 – 4/22	FA		
8 – 2/26		P4	Q4	16 – 4/29	Finals Week		
9 – 3/4		IA					

Key: Q=Quiz, P=Project, T=Test, GD=Group Discussion, IA=interim assessment, FA=Final assessment

*T1 and T2 will be held in GRIS 103 from 8:00 – 9:00 PM on the dates listed in the table above.

The Final Exam is scheduled for Monday, April 29th from 3:30 – 5:30 PM in BRNG 2280

Appendix

Use of External Resources

I am aware that there are many resources available for finding homework solutions. Some of them will give you the correct answer and others will not. Regardless, it is in your best interest to ensure that all of your work is your own since you will need to demonstrate your knowledge on quizzes and tests. Please learn from each other as you study, but make sure you independently master the material as well.

Students with Disabilities

Purdue University strives to make learning experiences accessible to all participants. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone at (765) 494-1247.

If you have been certified by the Disability Resource Center (DRC) as eligible for accommodations, you should contact your instructor to discuss your accommodations as soon as possible. [Here](#) are instructions for sending your Course Accessibility Letter to your instructor.

WebEx Instructions

I love to see you in person! However, if you prefer to meet virtually, WebEx instructions:

- Enter purdue.webex.com into your browser and search for my personal room.
- Enter your name and email address in the provided slots.
- **Be sure you are using the WebEx App, not WebEx through a web browser.**
- If this does not work and you are instead prompted for a Meeting Number, please use 120 451 0432. If a password is required, it is the same as the Meeting Number.
- Please click the green button to “Connect Audio and Video”. Do join by video if at all possible – it’s much more enjoyable when we can communicate face-to-face! Feel free to give me a call using the number on the first page of the syllabus if you have any issues connecting.

Copyright

In general, notes are “considered to be ‘derivative works’ of the instructor's presentations and materials, and they are thus subject to the instructor's copyright in such presentations and materials.” I consider class notes, tests, and quizzes to be derivative works and therefore copyrighted. Class notes, tests, and quizzes may not be sold, bartered, or even given to websites or other resources. Examples of such websites are Course Hero, Chegg, or Quizlet.

Additional Policies and Statements

The following can be found in Brightspace under “University Policies and Statements” or “Student Support and Resources”:

- Nondiscrimination Statement
- Emergency Preparedness
- Violent Behavior Policy
- Accessibility and Academic Adjustments
- Mental Health, Wellness, and Basic Needs Security

Diversity and Inclusion Statement

In our discussions, structured and unstructured, we will explore a variety of challenging issues, which can help us enhance our understanding of different experiences and perspectives. This can be challenging, but in overcoming these challenges we find the greatest rewards. While we will design guidelines as a group, everyone should remember the following points:

- We are all in the process of learning about others and their experiences. Please speak with me, anonymously if needed, if you have concerns about aspects of/experiences in the course.
- Intention and impact are not always aligned, and we should respect the impact something may have on someone even if it was not the speaker's intention.
- We all come to the class with a variety of experiences and a range of expertise, we should respect these in others while critically examining them in ourselves."

This course, as with every course offered at Purdue, plays a part in creating and sustaining a welcoming campus where all students can excel. There are many initiatives in math and statistics departments and supported by the university focused on this goal, and this course is designed to take advantage of those resources. Learning experiences and assignments address diversity and inclusion, not because they are "topics," but because they are necessary to prepare students to be successful in a diverse, global environment.

We strive for equity, providing equal access and opportunity, and working to maximize student potential. This requires both instructor and students to identify and remove barriers that may prevent someone from full access or full participation. You can help by:

- Contacting me, anonymously if needed, if you see a potential barrier for someone or yourself in participating fully in the class. This might be a physical barrier such as access to technology or a personal situation.
- Suggesting ways in which members of our class can support each other. Virtual study groups and discussion boards are examples, but I encourage you to be creative in your ideas.
- Getting to know each other as contributing members of our learning community. Everyone has something to contribute, and while I designed the course to take advantage of the wealth of knowledge, expertise, and experience we bring together, I cannot do it well without your participation. There are many opportunities built into this course for this type of work. It is important we do it together.