**Actex Exam P/1 Week 1 Overview**

Welcome to Actex's Exam P/1 prep course, a course dealing in the review of key concepts from probability. Topics include axioms of probability; random variables, conditional probability, Bayes’ theorem, univariate and joint distributions and expectations, loss frequency, loss severity and other risk management concepts. The goal of the course is to sharpen the probability and problem-solving skills that you have previously learned so that you can answer at least 75% of Exam P/1 questions correctly, my expectation being that 75% should be a passing score for Exam P/1.

As such, the course will focus on review of material and solving problems that are typical of those on Exam P/1. Exam P/1 is a three-hour exam of 30 multiple-choice questions. Given the nature of the problems and an average of 6 minutes per question, you must have mastered the course material, be able to quickly recognize the nature of the problem, develop a solution, and accurately do the required calculations. As a multiple-choice exam, the incorrect answers offered are frequently those that would be made by students with incomplete mastery of the material.

In order to best prepare you for the rigor of Exam P/1, and to provide you with practice in a "real-life" setting, there will be weekly tests where you will have an average of 6 minutes per question to seek a solution. Exam P/1 is offered as a computer-based test and having course tests given through Moodle will provide you with experience of taking the test under SOA/CAS-like conditions.

A thorough review and knowledge of Section 0 Set Theory concepts is required. You will see how Venn diagrams can be a very useful tool in analyzing probability problems.

**Objectives**

By the end of this week, you should be able to use and apply the following concepts in a risk management context:

General Probability with a focus on:

* Set functions including set notation and basic elements of probability
* Mutually exclusive events
* Addition and multiplication rules

**Assignments found in the Introduction folder on Moodle**

Introduction to Course/Syllabus/Online/Mathematical Background

* Listen to video for the introduction to the course where the course, syllabus, and online materials are covered.
  + Video: Actex Exam P Prep Course Intro (12:34)
* Listen to the Moodle Course Setup video (7:16)
* Take the practice test on Moodle. All the weekly tests in this course will be given via Moodle. The practice test provides you practice so that you are familiar with the environment before you take a for credit test.
* Listen to the Section 0 video, which covers the mathematical background necessary for the course. If you are very comfortable with set theory, series, calculus, and graphing inequalities you could choose to skip this video.
  + Video: Exam P Section 0 (5:38)

Discussion Board

* Briefly introduce yourself including, name, college/employer, where you are from, and why you want to be an actuary. (Post by Wednesday 11:30 pm)

**Assignments found in the Week 1 folder on Moodle**

Week 1 Reading

* Text Section 1
* Risk and Insurance study note

"Wednesday" Video Lecture

* Listen to videos for Section 1 of text.
  + Video: Exam P Section 1a (9:44)
  + Video: Exam P Section 1b (10:57)
* When asked to work a problem, stop the video, give your best attempt to work requested problem, restart video to see/hear my solution. If you were initially unsuccessful in correctly solving a problem, take some notes on what you needed to understand that you did not in order to solve the problem.
* Listen to the Risk and Insurance video, which reviews the Risk and Insurance study note.
  + Video: Exam P Risk and Insurance (9:28)

Homework Assignment

* Actex Study Manual, Section 0: 1 - 15
* Actex Study Manual, Section 1, problems1 - 7
* SOA Sample problems, # 7, 126, 128, 134, 143, 146 (problems to be founded in the "SOA Material" content folder on Moodle
* Actex Practice Exam 6-2, 8-14

Discussion Board

* Based on the lecture problems and homework problems, post one thing that you misunderstood and what you learned; or post a question on something in this week's material that you would like to understand better.

Week 1 Test

* On Moodle, 10-question multiple-choice, to be completed by Sunday 11:30pm.

Complete Week 1 Journal

**Office Hours**

Office Hours Monday 7:00pm - 8:00 Eastern Time, Thursday 7:00pm - 8:00pm Eastern

* Introduction, syllabus and expectation review, review of algebra/calculus required for course
* Student Questions

Other Office Hours by Appointment via Skype