# ACTEX Exam P/ Exam 1 DVD Errata List

Errors are listed by slide number. Please note these on your hard copies.

### Slide 42

There is an error in the last term. Bayes' Theorem should read:

$$P(A_i|E) = \frac{P(E \cap A_i)}{P(E)}$$
$$= \frac{P(A_i) \cdot P(E|A_i)}{P(A_1) \cdot P(E|A_1) + P(A_2) \cdot P(E|A_2) + \dots + P(A_n) \cdot P(E|A_n)}$$

### Slide 46

Insert "is" before the second to last word on the slide. The last line should read:

What is the conditional probability that a male has a circulation problem, given that he **is** a smoker?

### Slide 54

There is an error in the equation for  $\sigma^2$ . It should read:

 $\sigma^2 = V(X) = E(X^2) - \mu^2 = 3500 - 55^2 = 475$ 

### Slide 67

The last term in the sequence should have an exponent of 3:  $p_0 \left(\frac{1}{5}\right)^3$ .

### Slide 81

First bulleted item: k = 0, 1, 2, 3...

### Slide 91

Solution should read  $5(.05)^2(.95)^4 \approx .0102$ 

### Slide 104

The first paragraph needs the word "first" inserted before "claim from a bad driver" and the word "means" inserted before "6 years":

The waiting time for the first claim from a good driver and the waiting time for the **first** claim from a bad driver are independent and follow exponential distributions with **means** 6 years and 3 years, respectively.

### Slide 110

The correct answer is C.

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## Slide 118

The second line should read:  $P(600 \le X \le 650)$  [not  $P(600 \le X \le 750)$ ]

## Slide 122

There are two errors. The last two lines should read:

= .9772 – .1587 = .8185

## Slide 138

There should be a capital "X" in E[g(X)]:

$$E[g(X)] = \int_{-\infty}^{\infty} g(x) f(x) \, dx$$

## Slide 175

The product *Y* has been misstated. The solution should read:

Since each  $X_i$  can be only 0 or 1, the product  $Y = X_1 X_2 X_3$  can be only 0 or 1 ...

## Slide 177

The very last term on the slide should have an exponent of -6:

 $= 125,000,000(1-2500t)^{-6}$ 

## Slide 219

The last term should read:

 $V(Y \mid X = 1) = .7143 - (.7143)^2 = .204$ 

## Slide 222

There is an extra negative sign in the second-to-last term of  $f_x(2)$ . It should properly read:

$$f_{x}(2) = \dots = \frac{-y^{-2}}{4}\Big|_{1}^{\infty} = \frac{1}{4}$$