

PROBABILITY AND STATISTICS FOR ENGINEERS

Professor: Kingsley Reeves, Ph.D.

Hello, class. Welcome to EGN3443. Probability and Statistics for Engineers. My name is Kingsley Anthony Reeves, Junior. And I'll serve as your professor this semester. I'm really looking forward to an exciting time over the next 16 weeks.

And I want to first introduce myself to you. My background is a little different than maybe some of the other professors you've encountered during your tenure so far at USF. My undergraduate degree is actually in electrical engineering. And following that, I worked as a practicing engineer at Ford Motor Company.

I then went back to school to pursue my graduate education. And at that time, I received both a master's degree in industrial and operations engineering as well as an MBA. Following that, I entered consulting as a management consultant at PricewaterhouseCoopers for three years and then returned to my alma mater, the University of Michigan, to receive my Ph.D. in industrial and operations engineering.

And one interesting aspect of that is as a doctoral student is where I first taught this very course, probability and statistics for engineers. And believe it or not, we used the exact same book. So maybe a different edition now, but nevertheless the same book. So I'm very familiar with it. And I really enjoy teaching this course.

This course is unique in that it introduces you to the world of uncertainty. At this point in your academic career, most of your courses have been of a deterministic nature. What I mean by that is for given a fixed set of inputs, you get the same output.

A quick example of that might be looking at projectile motion in your physics course. You've seen that within a certain initial force and certain initial angle that the projectile travels a fixed distance every time based on a formula that you've used. Well, again, in this course, things are going to change because there is some natural uncertainty in the world that we certainly cannot avoid.

We're going to exploit our knowledge of that uncertainty and use it to enable us to take mere data and turn it into information that we can use for decision-making. That becomes a very powerful tool for us. Whether you're in engineering, or business, or even a social science major, statistics and probability, which really underlie statistics, is a powerful tool that you really must master so you can make wonderful decisions going forward.

Normally in a class of this size there's quite a bit of variability in terms of the background of the various students. So for example, some of you may have actually taken an AP test and performed well but you nevertheless had to take this course. And some of you, perhaps, have never taken a course in either statistics or probability.

Well, I want to let you know that there is no expectation of any prior knowledge with the exception of calculus. And even calculus, it'll be limited in how we use it. So if you can do a basic integral or double integral, you'll be just fine. So relax about that.

The idea here is just to engage yourself. I'm not so interested in individuals getting the right answer. But I'm very interested in you following the right procedures and understanding the underlying concepts.

Again, welcome to the course. I'm really looking forward to working with you all over the next 15 weeks. If you need to contact me, feel free to do so via email or via my phone. And I'll respond as quickly as possible.