

EE 503

Lecture Notes Part 1

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1.0 Introduction

In this class we are interested in studying mathematical experiments or processes whose outcomes are uncertain. In particular, we wish to assign a number called the probability to each outcome or to a certain collection of outcomes that represent the likelihood of the outcomes. We will also look at other ways of characterizing these random experiments such as its mean value, variation about its mean, etc.

When the outcomes of an experiment take on discrete values we use counting techniques or combinatorics to calculate probabilities. When the outcomes are continuous we use integration theory to calculate probabilities. We can also have a mixture of discrete and continuous outcomes.