Course Module
Stephen F. Austin State University
STAT 5343-001 Stochastic Processes
Bush (Math Bldg) 205 MTWR 8:00-10:05AM
ZOOM Meeting#: 945 1606 5265; Passcode: 848680.
https://sfasu.zoom.us/j/94516065265?pwd=bmFXQ2tQdVFRYltdZ2oxMVRFaTJsUT09

Instructor
Robert (Bob) Henderson
Department: Mathematics & Statistics; Office: Bush (Math Bldg) 344
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Phone: (936) 615-7796
BA in Math & History – Trinity University, San Antonio, TX (1978)
MS in Mathematical Statistics – Southern Methodist University, Dallas, TX (1980)
PhD in Mathematical Statistics – Southern Methodist University, Dallas, TX (1982)
MBA – University of Delaware, Newark, DE (1988)
Worked in industry for 27 years, 6 years with DuPont as internal consultant for a variety of businesses and staff groups, then 21 years in the semiconductor business, most with a supplier of a key enabling material for semiconductor production, and later with Samsung working primarily with engineers in process control efforts. The entire 27 years included many training delivery, as well as course development activities related to basic statistics, experimental design, and process control systems. Fall of 2009 was first semester at SFA.

Teaching Hours – 8:00-10:05AM and 10:30AM-12:35PM MTWR
Office Hours – 2:00-4:00PM MTW, and by appointment

Course Goals
This course ideally will provide students with an introduction to and understanding of stochastic processes, including, but not necessarily limited to, Markov chains, Branching processes, Poisson processes, and Brownian motion.

Text

Computer Access/Skills
This course is largely applied in nature; consequently, it will be helpful to have some facility in working with data using a computer. The course work will be greatly facilitated with the use of a statistical software package R. Knowledge of and ability to utilize Microsoft Office programs – Excel, Word, and Powerpoint – will also often be beneficial. Almost all workplaces expect some skills in working with these packages, and use them for reporting and/or presentation purposes.

Prerequisites
STAT 5340 or equivalent

Course Syllabus
The official course syllabus can be found at:
http://www3.sfasu.edu/math/docs/syllabi/STAT5343Syllabus.pdf
Course Overview

Week 1: Introduction & Review, Markov Chains
Week 2: Markov Chains (continued)
Week 3: Branching Processes, Markov Chain Monte Carlo
Week 4: Poisson Processes, Continuous-Time Markov Chains
Week 5: Brownian Motion

Grading
Grades will be determined by the following:

- Assignments 80%
- Exams 20%

About Assignments
Homework problems will be assigned and periodically collected (not necessarily all will be collected). When collected, one or two of the assigned problems (likely not all) will be selected for grading.

Attendance
This is a graduate level class, and I do not expect attendance issues, and attendance (even at 8AM) is encouraged. However, all classes where relevant material is reviewed will be recorded and links to the recordings will be uploaded to D2L. If you know you are going to have to miss a specific class, if possible, please let me know via e-mail or phone prior to the class.