Richard M. Feldman   richf@tamu.edu
Video of lecture available by 8AM, MW

Recommended Text: S. M. Ross (1996). *Stochastic Processes*, Second Edition, John Wiley and Sons.

Reference: R. M. Feldman and C. Valdez-Flores (2010). *Applied Probability and Stochastic Processes*, Second Edition, Springer-Verlag.
E. Cinlar (1975). *Introduction to Stochastic Processes*, Prentice-Hall, Inc.

Catalog Description: Introduction to probability and random processes as a basis for studying topics in industrial engineering and operations research.

Objectives: This course will provide students with theoretical foundations as well as applications of probability and random processes that are frequently encountered in engineering systems. In particular, the course would equip students with tools for modeling, analysis, design and control of stochastic system.

Prerequisites: ISEN 609 and either STAT 212 or STAT 601. Familiarity with Excel will also be assumed. Previous exposure to Markov chains and Markov processes is assumed; therefore, **you may not take the course without ISEN 609.**

Course Topics: (Length of topic coverage is approximate)
Review of probability, conditional probabilities (1 week)
Poisson processes (1 week)
Discrete time Markov Chains (2 weeks)
     EXAM. Tentatively February 19
Renewal Processes (3 weeks)
Continuous time Markov Processes (1 weeks)
     EXAM. Tentatively March 25
Markov Renewal Processes (3 weeks)
Markov Decision Theory (2 weeks)
     EXAM. Tentatively April 22
     FINAL (*optional*) Thursday, April 30 at 10:00 AM

Office Hours Policy: I will use ZOOM for office hours from 9:00AM to 10:00AM on class days. At other times, I am available through email, except on Sundays. You should always use your tamu email account for communication so your email is not lost to my spam filter. A Camtasia recording of my lecture will be available on eCampus a couple days ahead of time, then if you have questions, I will try to keep ZOOM open from 9:00AM to 10:00AM, Monday and Wednesday. The main advantage of ZOOM over email is that everyone gets to take advantage of everyone else's questions. (As experience with this technology grows, this may change.)

Major Exams: There are three exams and an optional final exam (April 30). Make a note of the exam dates on your calendar because a job interview on an exam date is **not** an excused absence without documentation that the interview is for a full-time position and is on a date that cannot be rescheduled. Tests 2 and 3 and the optional final will be online and will be open book, open notes, and must represent your individual work. Remember the Aggie Code of Honor. If you cannot take a test for medical reasons, please keep me informed via email. Any disagreements regarding a grade received on any graded material must be discussed within one week of the return of the graded material. *No grade will be changed beyond the one week limit.*

Homework: Homework will be assigned on most class days and must be submitted in eCampus by 7AM on the morning of the next class period immediately following the assignment. When submitting answers to eCampus, it is very important to follow rounding instructions. Late assignments are not accepted and if you must submit the assignment by email, you will only receive half credit for the assignment.

Grade: If you do not take the final, each test is 30% of your grade and the combined homework grade counts as 10%. If you take the final, each test is 22.5%, the combined homework is 7.5%, and the final exam is 25% of your grade. Grades assigned are A for 90%–100%, B for 80%–89.9%, C for 70%–79.9%, D for 60%–69.9% and F for less than 60%. Without the final, grades are truncated; otherwise they are rounded; thus, 89.99% is a B if the final exam is not taken. At the end of the semester when you plead for a better grade based on how hard you worked or on what you need in order to graduate or to accept an internship; remember – grades are based on performance and not on what you need or how hard you worked. There will be no "extra" assignments available for improving your grade. Grades will be maintained online at http://eCampus.tamu.edu

Academic Integrity: "An Aggie does not lie, cheat, or steal or tolerate those who do." It is the responsibility of students and instructors to help maintain scholastic integrity at the university by refusing to participate in or tolerate scholastic dishonesty. (See the web site http://aggiehonor.tamu.edu for the Honor Council Rules and Procedures.)

In this course, I will request the Aggie Honor Office to assign a grade of F* for any violation of the Aggie Honor Code, no matter how minimal the violation may be. (The Honor Council Rules and Procedures can be found at http://aggiehonor.tamu.edu.)

The Americans with Disabilities Act (ADA). Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources in the Student Services Building or at (979) 845-1637 or visit http://disability.tamu.edu. Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

Special Dates:

First lecture:	Monday, Jan 13
Holiday, Martin Luther King, Jr. Day, no classes:	Monday, Jan 20
Test 1:	Tentatively, Wed, Feb 19
Spring Break:	Mon – Fri, Mar 9 – 13
No Classes:	Mon – Fri, Mar 16 – 20
Test 2:	Tentatively, 8AM on Wed, Mar 25. Online exam.
Last day Q-Drop:	Tuesday, Apr 14
Test 3:	Tentatively, 8AM on Wed, Apr 22. Online exam.
Final lecture:	Monday, Apr 27
Optional Final:	Thursday, April 30, 10:00 AM. Online exam.