Instructor
Dr. Soroush Saghafian, Soroush.Saghafian@asu.edu
Office Hours: Fridays, 3:00-5:00, BYENG 336, others strictly by appointment

TA
Kangwon Seo, kseo7@asu.edu
Office Hours: Mondays and Wednesdays, 3:00-5:00, BYENG 221

Lectures
Tuesdays and Thursdays, 3:00PM – 4:15PM, COOR 174

Exams
Midterm: October 24, 3:00PM – 4:15PM, EDC 117
Final: December 12, 2:30PM – 4:15PM, EDC 117

Required Text Book

Supplemental Texts (Recommended, Not Required)

Prerequisites:
Basic knowledge in probability, statistics, operations research, and math (e.g., IEE 380, IEE 376).

Grading:
- Homework: 15%
- Midterm: 40%
- Final: 45%

Course Description
The main objective of the course is to provide you with mathematical modeling tools to quantify randomness, and make better decisions under uncertainty. Emphasis will be on the basic topics of probability modeling, stochastic processes, and their applications. The course requires a lot of abstract thinking, modeling, and analysis.
Core Contents

The course will provide introductions to various topics such as fundamentals of probability theory, conditional probability, discrete and continuous random variables, Markov chains, Poisson processes, and queuing theory.

Class Policy

1. Classes will consist of lecturing, active and collaborative learning exercises, and discussions. Solving the homework problems and class participation are both very important for learning the material. Hence, it is important that you participate in the class and also spend enough time to work on the homework. Most concepts will build on top of topics covered in previous lectures, so missing lectures or homework will have very serious consequences throughout the semester. We will use ASU’s Blackboard system to post lecture notes, assignments, etc. You should always be prepared to take organized notes since the class notes will sometimes be available after the lecture is delivered.

2. Assignments are due before the lecture starts (i.e., before 3:00PM) on their due dates. Late submitted materials will not be graded, and a zero will be assigned to all members of the group. Note that late submissions include those submitted on or after 3:00 PM on the due date.

3. It is imperative that you come to class in a timely fashion. We have a big class, which makes it hard to get organized before each class. Furthermore, it disrupts the lecture and the learning environment to have latecomers to the classroom.

4. Use of electronic equipment (such as laptops, tablets, iPods, cell phones, etc.) is not allowed in the classroom unless the instructor is notified in advance that you use such devices to take notes. Please turn off and store all electronic equipment before entering the class room.

5. If you have to miss an exam, you will receive a grade of “0” for that exam unless you have a doctor’s documentation of illness. In either situation, there will not be any make-up exam. A card from the health center saying that you visited the health center does not count as a doctor's report; The instructor need to see a report that clearly states that you were not in a physical condition to take the exam at the scheduled date/time.

Re-grade Policy

If you think that there has been an error in the grading of your assignment or exam, you have one week from the day it was returned to you to submit it for a re-grade. (Note: one week is counted from the day the homework becomes available; you do
not get an extension if you chose to pick it up late!) When you resubmit the assignment, it must be accompanied by a clear written explanation of the suspected grading mistake. Re-grading entails re-grading the entire assignment or exam; so you may, in fact, get a lower grade than your original grade. All the regarding request should be directly given to the TA during his office hours.

**Email**

All emails to the Instructor and/or TA must have either [IIE 470] or [IIE 598] in the subject line. Failure to place this in the subject line could cause your email not to be read. Email is the convenient way to get in touch with the instructors to get an answer to a short question. However, be aware that the professor and the TA have many other work obligations and probably keep different schedules from you. Therefore, although we do guarantee that we will answer all emails we receive, you should not expect us to answer each of them right away. The most reliable way to get your questions and concerns answered is to attend office hours; keep up with lectures and readings and get started on assignments early, to be prepared to pose questions in office hours.

**Academic Integrity**

Incidences of cheating will be reported to the Dean’s Office with a recommendation that you receive an “E” in this class. ASU has very severe penalties for academic integrity violations. ASU’s policy can be found online. You must observe this policy with respect to examinations, assignments, and all other aspects of this course. In particular:

**Homework:** Homework assignments need to be returned by teams of three. Each group returns only one set of answers. Please find two other members that have registered in the same level as you (undergraduate or graduate level). Although assignments are done in groups, each member of the group should completely understand and contribute to all the problems in the assignment: do not divide the problems between members. Any help from internet, friends outside your group, etc. is strictly prohibited. However, you are encouraged to (a) attend the TA’s office hours to actively discuss the problems and your thoughts, and (b) discuss the problems with the members of your group. Any violation from the above-mentioned rules will result in a grade of zero, and will be considered as an academic violation.

**Exams:** Both exams will be closed book. You will be allowed to bring one page of your own notes and a calculator to perform simple arithmetic operations; details to follow.