# Probability 1

# Syllabus

Winter-Spring 2021

**Instructor**: Abdollah Safari (best go with no titles, but if prefer using one, avoid "ostaad"!)

**Email**: ab.safari.w@gmail.com

**Class Time**: Sun. & Tue., 8:00-10:00 AM

**Questions**: You can either ask your questions from designated TAs, or send me via WhatsApp. I will answer your question, but there is no timeline for that! Best to ask during lectures or ask your TAs.

**Books**:

آشنایی با احتمال و نظریه توزیع ها، عبدالرسول برهانی حقیقی، احمد پارسیان، سلطان محمد صدوقی الوندی، سید نظام الدین احمد کرمانی و عزت کرمانی. جلد اول، انتشارات علمی پارسیان. ۱۳۹۳

*A first Course in probability* by Sheldon M. Ross (2010). 8th edition. Pearson Prentice Hall.

**Prerequisite**: None.

**Logistics**: Each week I will post lecture notes in pdf to eLearn and recorded lectures that explain these notes. The lectures will describe and explain the probability concepts along with some examples. There will a few selected questions from the reference textbooks as homework almost every week. The exercises relating to the lectures covered each week will be due on Friday of the following week, so there will be a predictable assignment schedule.

As well, tutorials will be available each week to support the lectures from that week. These tutorials will dig deeper into examples. The tutorials will not teach the methods, so they will assume that you have already seen the lectures. It is my expectation that students will view both lectures and tutorials before attempting homework or answering questions.

**GRADING and POLICIES**

- Exams: There will be two exams: a midterm and a final.
- Homework: There will be graded homework assignments. Each assignment comes with a *peer review* section (Yes, this is also a part of your assignment!). Essentially, there will be something due *each week*. We will use MTA for submitting homework

assignments and their reviews. Instructions will be given later when the first assignment is due.

- Lecture examples contributions: Each lecture starts with sample textbook examples presented by students from last week materials. These presentations are *optional* and will contribute to your final grade as *extra bonus.* I will pick the examples of next week contribution during each lecture. Everyone has only one chance to present lecture examples! FCFS! Remember, there will be a limited number of lectures (<< # of students)!

- Collaboration: Discussion of ideas learned in class is highly encouraged. This often helps in the learning process. Discussion of assignments, however, must be done carefully. Because assignments count toward a student's mark, the work turned in by each student should represent that individual's understanding, ideas, and creativity. By submitting an assignment for marking, you assert that the work contained therein is fundamentally your own. In particular, while students may discuss with one another techniques and approaches to solving problems (only after trying to solve it alone, of course), students should not get answers to problems from another source, within or outside the class.

  Note that anyone who provides answers to another student is also guilty of academic dishonesty, and will be held accountable for these actions. If you have questions about collaboration, please contact me before it becomes a problem!

- Late Homework: Homework is considered late if it is not received before the specified due time. Homework handed in later the same day may be subject to a penalty of 20% of the homework's value. Homeworks will not be accepted on later days.

- Scoring (This is subject to change):

  - **Assignments** 20%
  - **Midterm** 40%
  - **Final** 40%

**ANTICIPATED COURSE OUTLINE (SUBJECT TO CHANGE!)**

1. Counting principles
2. Probability axioms
3. Random Variables
4. Standard distributions
5. Expectation and its properties