CISC 2210 – Introduction to Discrete Structures

Reading Assignment: Probability

• Pick one or more of the following books and go over the recommended sections. Any of these books or any other book is ok. Remember that books are by far more accurate than free material you may find on the Internet. In addition, solving their assignments would be very helpful.

    [https://www.people.vcu.edu/~rhammack/Discrete/Alpha.pdf](https://www.people.vcu.edu/~rhammack/Discrete/Alpha.pdf)

• The following is a book with a lot of examples and practice problems.

    Supplementary Problems 7.42–7.70 pages 149–151.

• The following are two short online tutorials.

  – "The 9 concepts and formulas in probability that every data scientist should know".
• The following are video lectures that cover most of the basic ideas. Watching any of them would help while watching all of them would be great.

- Two independent basic video lectures

  1. Basic Probability (11:28 minutes)
     https://www.youtube.com/watch?v=KzfWUEjJG18
  2. Introduction to Probability: Basic Concepts (37:10 minutes)
     https://www.youtube.com/watch?v=CBnGs9t6RxY

- Ms Hearn 6 part very basic videos:

  1. Theoretical Probability Basics (7:05 minutes)
     https://www.youtube.com/watch?v=G12t4oFP_OY
  2. Empirical or Experimental Probability (3:22 minutes)
     https://www.youtube.com/watch?v=kBoM6p3SPn4&t=12s
  3. Law of Large Numbers and Experimental and Theoretical Probabilities (4:08 minutes)
     https://www.youtube.com/watch?v=ruq_3tg_kjw&t=54s
  4. Odds and Converting Between Odds and Probability (6:45 minutes)
     https://www.youtube.com/watch?v=afIieJhBFas&t=33s
  5. Probability of NOT (6:30 minutes)
     https://www.youtube.com/watch?v=DrgwH0ERH4c&t=56s
  6. Probability of OR (6:34 minutes)
     https://www.youtube.com/watch?v=K7nSHz_3jzE&t=263s

- TrevTutor Discrete Math 2, the chapter on Counting and Probability, lectures 3,4,5.
  https://www.youtube.com/playlist?list=PLDDGPDv7e6Ajt0amDszTmT_8p6xITSTGEl2

  1. Discrete Probability (12:35 minutes)
     https://www.youtube.com/watch?v=FHRuqc0eHdw
  2. Axioms of Probability (18:01 minutes)
     https://www.youtube.com/watch?v=xuv6BCR-1Nc&feature=youtu.be
  3. Conditional Probability (21:19 minutes)
     https://www.youtube.com/watch?v=5xQPdWKqrc&feature=youtu.be

- Two introductory lectures.

  1. Introduction to Probability (24:35 minutes)
     https://www.youtube.com/watch?v=HHeQn3r0icY
  2. And, Or, and Conditional Probability (23:44 minutes)
     https://www.youtube.com/watch?v=s5kN9TvqDjE&t=686s