PROBABILITY - MATH 316

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In this course we will develop counting techniques and draw upon your calculus background to calculate probabilities of many different types of events. We will also investigate some standard probability distributions. For example, you've heard of the bell curve, but do you know the formula for it? Hopefully, you will find this an interesting class in which you will develop a good idea of how probabilities work, and how your intuition can sometimes lead you astray.

The Book: We will be using the book *A First Course in Probability*, 10th ed., by Sheldon Ross. We will cover chapters 1–7 and 9, to varying extents.

Office Hours: TR, 10:30am to 11:30am. If you are unable to make these times, please email or talk to me and we'll find a time to meet.

Homework: Doing many, many problems is especially crucial in learning mathematics, and probability is no exception. On the back of this sheet you will see a list of exercises to do to help you learn the material we cover. You should do them all. I will not be collecting any homework, but I have put a schedule together to help keep you on track. The solutions for all problems can be found at `https://tinyurl.com/Math316Colgate`.

Testing: There will be 8 chapter exams and a cumulative final. Each exam is during regularly scheduled class time, in the classroom. The final exam is on the first day of Exam Week, Monday, December 12. Here is our tentative schedule:

Chapter 1 Exam:	Wednesday, September 7
Chapter 2 Exam:	Friday, September 16
Chapter 3 Exam:	Wednesday, September 28
Chapter 4 Exam:	Friday, October 7
Chapter 5 Exam:	Friday, October 28
Chapter 6 Exam:	Wednesday, November 9
Chapter 7 Exam:	Friday, November 18
Chapter 9 Exam:	Wednesday, December 7
Final Exam:	Monday, December 12, 12:00pm to 2:00pm

Late work: Make-up exams will not be given without a note from your doctor or dean. If you know you will miss a test, you must notify me *before* the test so that we can make arrangements for you to take the test *before* the scheduled date.

Grading: Chapter Exams: 10% each;   Final: 20%

I reserve the right to modify a grade by up to 1%. Furthermore, the grading scale is a straight scale: 90–100 are the As with 90–93.33 being an A– and 96.67–100 being an A+; 80–89.99 are the Bs, 70–79.99 are the Cs; 60-69.99 are the Ds; < 60 is an F.

Homework Problems

Finish by date			
9/5/22 (Mon)	CHAPTER 1	p. 15	#$1 - 24, 28, 30, 31$.
9/14/22 (Wed)	CHAPTER 2	p. 50	#$1 - 10, 15, 16, 18, 23, 24, 29 - 31, 38, 41$; and 26 (challenge problem).
9/26/22 (Mon)	CHAPTER 3	p. 103	#$1 - 10, 21, 22, 24, 30 - 32, 46, 49, 50, 53, 58, 62$.
10/5/22 (Wed)	CHAPTER 4	p. 175	#$1, 2, 4, 6 - 10, 17, 20, 21, 23, 28, 38, 39, 42, 54, 55, 57, 61, 64, 66, 78$.
10/26/22 (Wed)	CHAPTER 5	p. 228	#$1 - 8, 10, 13, 15, 17, 19 - 21, 23, 25 - 27, 32, 34, 39, 40, 42$.
11/7/22 (Mon)	CHAPTER 6	p. 291	#$1, 2, 4, 7 - 10, 13, 17, 20 - 23, 27, 29, 30, 37, 38$.
11/16/22 (Wed)	CHAPTER 7	p. 378	#$1, 2, 5 - 11, 16, 17, 21, 22, 25, 30, 33, 40$.
12/5/22 (Wed)	CHAPTER 9	p. 447	#$4 - 11$ (there is a crucial typo in #7: insert "if" before "such")

Class Schedule

September

9/7/22 (Wendesday): **Chapter 1 Exam**

9/16/22 (Friday): **Chapter 2 Exam**

9/28/22 (Wednesday): **Chapter 3 Exam**

October

10/7/22 (Friday): **Chapter 4 Exam**

10/10/22 (Monday): No class (Fall break)

10/28/22 (Friday): **Chapter 5 Exam**

November

11/9/22 (Wednesday): **Chapter 6 Exam**

11/18/22 (Friday): **Chapter 7 Exam**

11/21/22–11/25/21 (Monday-Friday): Thanksgiving break

December

12/7/22 (Wednesday): **Chapter 9 Exam**

12/9/22 (Friday): Final Exam review

12/12/22 (Monday): **Final Exam**, 12:00pm to 2:00pm