Homework Math 4710 Spring 2018

Unless otherwise noted, all exercises come from the course text. The exercise and problem numberings are mostly the same in both the 8th and the 9th edition of the textbook. If there will be differences in numberings, additional comments will appear next to the corresponding assignment. At the end of each chapter, the textbook gives different types of exercises: “Problems”, then “Theoretical exercises” and finally “Self-test problems and exercises”. In the assignments, each week 7 questions will be given, of which 4 are from Problems and 3 are from Theoretical Exercises. Two problems and two theoretical exercises will be graded each week. Exercises are graded from 0 to 6 points.

In the homework, solutions must be properly explained and work must be shown. Assignments will be posted on Wednesdays and will be due at the beginning of class on Wednesday of the following week. Solutions will be posted immediately after the due date and time, and late homework or submissions in electronic form will not be accepted.

At the end of the semester, the two lowest scores are dropped.

Please hand in the problems and the theoretical exercises on separate pages (they will be graded by different graders).

**Homework 1**, due Wed 2/7 Chapter.1, Problems: 12, 15, 17, 28; Theoretical Exercises: 6, 8, 16. (Both for 8 th and 9 th edition.)
Note about Problem 17: The children are considered distinguishable. Solve it in the case if the gifts are distinguishable and also if the gifts are indistinguishable.

**Homework 2**, due Wed 2/14 Chapter.2, Problems: 2, 4, 9, 12; Theoretical Exercises: 4, 5, 10. (Both for 8 th and 9 th edition.)

**Homework 3**, due Fri 2/23 Problems: Ch 2: 32, 39; Ch 3: 2, 11; Theoretical Exercises: Ch 2: 17, 20; Ch 3: 1. (Both for 8 th and 9 th edition.)

**Homework 4**, due Wed 2/28 Chapter 3: Problems 23, 25, 32, 56, Theoretical Exercises 3, 6, 8. (Both for 8 th and 9 th edition.)

**Homework 5**, due Wed 3/7 Problems: Chapter 3: 64, 81, 84 Chapter 4: 4 Theoretical Exercises: Chapter 3: 7 part (a), 18, 28; Hint for Problem 3.81: look at the example “The gambler’s ruin” (4m in the 9th ed, 4 l in 8th )


**Homework 7**, due Wed 3/28 Pr: 4.41, 4.53, 4.57, 4.70. TE 4.25, 4.27, 4.28. (Both for 8 th and 9 th edition.)
For Pr 4.70: By Poisson process, we mean a process satisfying assumptions (1)-(4) from class. Hint for TE 4.25: Compute the probability that k events are counted.

**Homework 8**, due Wed 4/11: Pr: 4.78, 5.4, 5.8, 5.13. TE 5.2, 5.3, 5.6