

Math 447 - Fall 2025 - Homework 04

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Status - Reading Assignments:

Here are the reading assignments to be completed before the first one of this HW.

WMS (Wackerly, et al. Textbook):

Nothing assigned yet

MF447 lecture notes:

ch.1 - 5.3

Other:

Nothing assigned yet

It is really important for the WMS reading assignments that you work through the examples!

Reading assignment 1 - due Monday, September 8:

- a. Carefully read MF ch.5.4. Be sure to understand all definitions and facts given there. You will have to answer many questions concerning independence in the upcoming quizzes and exams, and the concept of iid sequences of random elements is a central one in all of probability theory and statistics. There is only one example, Example 5.15, but if you work carefully through it, you'll be in good shape.
- b. Review WMS ch.2.1 - ch.2.4.
- c. Carefully read WMS ch.2.5 and ch.2.7 - ch.2.8. The theory behind all this material has been covered in the MF notes. WMS ch.2.6 is about combinatorial analysis and has been assigned for Friday.

Reading assignment 2 - due: Wednesday, September 10:

- a. Extra carefully read MF ch.7 through ch.7.3, Example 7.10. Be sure to work all the examples given there! Be aware that many exam and quiz problems need knowledge of the ch.7 material for their solution!

Reading assignment 3 - due Friday, September 12:

- a. Extra carefully read the remainder of MF ch.7. Do this more than once! Be sure to work all the examples given there!
- b. Carefully read WMS ch.2.6. Work through all the examples given there! This might help you to do better on the combinatorics problems of midterm 1!

General note on written assignments: I will not collect those assignments for grading but doing them might be helpful for your quizzes and exams.

Written assignments are on the next page.

(a) Work closed book through the following:

- Example 5.15 of Ch.5.4. Try to adapt it to show mathematically that a sequence of coin tosses is independent.

(b) Be sure to understand conditioning and independence. If the MF ch.5.2 and ch.5.4 material gives you trouble, read the corresponding pages in WMF ch.2 and then go back to the MF doc.

(c) All WMS exercises below are odd-numbered, so the solutions are in the book.

- WMS ch.2.5 exercises: #2.25, #2.27, #2.29, #2.31
- WMS ch.2.6 exercises: #2.35, 2.37, 2.43, 2.45, 2.55, 2.61, 2.68
- WMS ch.2.7 exercises: #2.71, 2.75, 2.79
- WMS ch.2.8 exercises: #2.95, 2.101, 2.107