Math 447 - Spring 2026 - Homework 09

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Status - Reading Assignments:

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

MF447 lecture notes:
     ch. 1 – 11.7; skim ch.11.8.1

WMS (Wackerly, et al. Textbook):
     Ch. 2 – 5.3, parts of ch.6.5

Other:
     Nothing assigned yet

New reading assignments:

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

Reading assignment 1 - due Monday, March 16:

a. Carefully read the remainder of MF ch.11.8. Conditional expectations and variances will definitely be on the major exams!
b. skim WMS 3.10 and 4.11
c. Carefully read MF ch.11.9 and ch.11.10 through Example 11.10. Understand how the multinomial distribution is used to derive formulas concerning order statistics!

Reading assignment 2 - due Wednesday, March 18:

a. Carefully read the remainder of MF ch.11.10.
b. Carefully read the non–optional parts of MF ch.11.11 and skim the remainder.

Reading assignment 3 - due Friday, March 20:

- Study for the second midterm!

Written assignments are on the next page.

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

(a) Work closed book through the examples given in the assigned reading, both in MF and WMF.

(b) Pertaining to HW 9:

⊡ Be sure you can apply the Tchebysheff inequalities! ⊡ Understand the increased complexity when dealing with a vector of two (or even more) random variables: Unless the are independent, conditioning significantly increases the technical difficulty.

(c) Conditional expectations are very important, so the same is true for MF ch.11.8 and WMS ch.5.11.

(d) All WMS exercises below are odd-numbered, so the solutions are in the book.
- WMS ch.4.6 exercises: #4.6.081, 4.6.091, 4.6.109
- WMS ch.4.9 - 4.10 exercises: #4.9.145, 4.10.147, 4.10.151
- WMS ch.5.2 exercises: #5.1, 5.3, 5.5, 5.7, 5.11, 5.15
- WMS ch.5.3 exercises: #5.19, 5.21, 5.23, 5.25, 5.33,
- WMS ch.5.4 exercises: #5.45, 5.51, 5.63, 5.71,

Selected answers:

None, since all answers to **(a)** can be found in WMS and the lecture notes.