

Math 447 - Spring 2026 - Homework 05

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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 - 5, CH. 7

WMS (Wackerly, et al. Textbook):

CH. 2.1 - 2.8

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, February 16:

- Prepare for the midterm!

Reading assignment 2 - due Wednesday, February 18:

- a. Carefully read MF ch.8. Understand that “sample” refers to both the action $\omega \mapsto \vec{X}(\omega)$ of taking the sample and the realization $\vec{x} = \vec{X}(\omega)$ that actually was obtained after performing this action.
- b. Carefully read the remainder of WMS ch.2.

Reading assignment 3 - due Friday, February 20:

- a. Skim MF Ch.6.1. The only items I ask you to remember are Definition 6.2 (Simple Function on Ω), and Theorem 6.2 (Important: compare to Remark 4.5, where we illustrated how to approximate $f \geq 0$ by simple functions f_n from below: $f_n \uparrow f$).

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) Midterm prep:

- Work through some of the fully worked examples of MF ch.3-5 and ch.7.1 - 7.2 + the parts of MF ch.8.1 that are not about Bayes. Do the same with WMS ch.2.1 - 2.8, but exclude the ones from WMS ch.2.6 that are about multinomial coefficients.
- Review the key definitions and theorems and propositions of those chapters.

(b) Supplementary items, not covered in (a):

- Work through some (more) of the fully worked examples of MF ch.7.3 and ch.8. and of WMS ch.3.
- Do the same with the parts of WMS ch.2 which were not covered in (a).
- Review the key definitions and theorems and propositions of those chapters.

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

- WMS ch.2.9 exercises: #2.111, 2.113, 2.115, 2.117
- WMS ch.2.10 exercises: #2.125, 2.129, 2.131, 2.135