

MATH355 M2LIST

This is a rough list of what we have covered since Midterm 1. I make no claim that this list is complete, i.e. if a topic not appearing here is on the exam, you are not allowed to complain. It is your responsibility to be aware of everything that was covered in class.

After the first midterm we have roughly covered Chapter Two Section III and all of Chapter Three (excluding “Section VI: Projection”) from Hefferon.

Here is a list of recommended exercises. They are taken from the textbook, available here <http://joshua.smcvt.edu/linearalgebra/book.pdf>.

- p. 141 - 4.20, 4.21, 4.22, 4.23, 4.24, 4.25, 4.26, 4.27, 4.28, 4.30, 4.31, 4.33, 4.34, 4.35, 4.37, 4.41,
- p. 172 - 1.13, 1.15, 1.16, 1.17, 1.18, 1.21, 1.22, 1.23, 1.24, 1.25, 1.30, 1.32, 1.35, 1.37, 1.38, 1.39
- p. 181 - 2.9, 2.10, 2.11, 2.12, 2.13, 2.14, 2.15, 2.17, 2.18, 2.19, 2.24,
- p. 188 - 1.18, 1.19, 1.20, 1.21, 1.22, 1.24, 1.27, 1.34, 1.35, 1.38, 1.39, 1.40,
- p. 200 - 2.22, 2.23, 2.24, 2.25, 2.27, 2.30, 2.32, 2.33, 2.37, 2.40, 2.41 (you may skip part (e)), 2.42, 2.43, 2.44, 2.47
- p. 211 - 1.12, 1.13, 1.14, 1.15, 1.16, 1.17, 1.18, 1.19, 1.22, 1.23, 1.24, 1.25 (and the corresponding example 1.9 from the book), 1.26, 1.27, 1.28, 1.30, 1.31, 1.33 (optional, but might be fun)
- p. 220 - 2.12, 2.13, 2.14, 2.15, 2.16, 2.17, 2.19, 2.20, 2.22, 2.23, 2.24, 2.25 (optional), 2.26, 2.29, 2.30, 2.33
- p. 226 - 1.8, 1.9, 1.15, 1.16, 1.17, 1.18 (try out some examples, perhaps of 2×2 matrices, before guessing the answer)
- p. 233 - 2.14, 2.15, 2.18, 2.19, 2.24 (this question is a bit silly), 2.27, 2.28 (it's useful to understand this exercise geometrically, but not essential to do all the algebra), 2.30 (this exercise is probably easier understood by interpreting rank as dimension of image), 2.32 (a) and (c), 2.33, 2.34, 2.35,
- p. 243 - 3.24, 3.25, 3.26, 3.34, 3.35 (assume your vector space has dimension strictly greater than zero), 3.40, 3.43, 3.44, 3.51
- p. 252 - 4.13, 4.14, 4.15, 4.16, 4.17, 4.18, 4.20, 4.22 (a bit tangential to our course), 4.26, 4.28, 4.29, 4.32, 4.31, 4.34, 4.35,
- p. 257 - 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14, 1.16, 1.17, 1.18, 1.20, 1.21, 1.22, 1.23, 1.24,
- p. 265 - 2.10, 2.11, 2.12, 2.13, 2.14, 2.15, 2.16, 2.17, 2.18, 2.19, 2.24, 2.25, 2.26, 2.29, (if you want a sneak peek of what's coming next do also 2.31)

Notice that solutions to ALL of these exercises may be found on Hefferon's website!