MATH 240 - SUGGESTED PROBLEMS

FALL 2016

Our work in class and on the homework assignments focuses primarily on higher-level thinking. Of course, it is still important to practice doing computational problems to solidify your understanding. The following is a list of problems from the textbook that we think might be useful for this. You do not need to turn this in, but you should do most or all of these problems on your own.

This can also serve as a rough reading schedule for the textbook, although the dates are approximate and may change.

1. Linear Independence and Span (Weeks 1-2)

Section 1.3. 9, 11, 12, 15, 17, 19

Section 1.7. 1, 3, 9, 11, 15, 17

Section 4.3. 1, 3, 5, 7

2. Systems of Equations (Week 3)

Not all of this material will be covered in lecture; you will need to read some of these sections on your own.

Section 1.1. 1, 7, 11, 13, 15

Section 1.2. 1, 3, 7, 11

Section 1.4. 3, 5, 7, 11

Section 1.5. 5, 7, 11

3. Linear Transformations and Matrices (Weeks 4-5)

You may need to read some of the material on matrices on your own.

Section 1.8. 1, 3, 5, 9, 13, 15

Section 1.9. 1, 3, 19, 27

Section 2.1. 1, 7

Section 2.2. 1, 3, 5

Section 2.3. 1, 5, 11

Section 3.1. 1, 3, 9, 19

Section 3.2. 1, 5, 7, 11

Section 3.3. 1, 3, 5 (skip this section if we don't cover Cramer's Rule in class)

4. Vector Spaces (Weeks 6-7)

Section 2.8. 1, 5, 23

Section 2.9. 1, 3, 5, 9

Section 4.1. 1, 9

Section 4.2. 1, 3, 5

Section 4.3. 9, 13

Section 4.4. 3, 5, 9

Section 4.5. 1, 3, 7, 11

Section 4.6. 1, 3, 5

Section 4.7. 1, 9

5. Eigenvalues, eigenvectors, and other eigenthings (Weeks 7-8)

Section 5.1.

Section 5.2.

Section 5.4.

Section 5.5.

6. Diagonalization and Projection (Weeks 9-10)

Section 5.3.

Section 7.1.

Section 6.1.

Section 6.2.

Section 6.3.