

## Homework assignments for Math 310 Fall 2013

The text is

"Linear Algebra with Applications, by Steven J. Leon, Eighth Edition.

Syllabus: Chapters 1-6 of Leon.

We will cover all the basics and a selection of the applications.

You are encouraged read more of the applications of linear algebra on your own and to explore the internet and the library for other points of view.

This list of assignments will fill in as the course goes along.

There will be two in-class hour exams during the course.

Dates will be given in advance.

There will be a TAKE HOME FINAL EXAM in this course.

The exam will be distributed to

you on Wednesday, November 20 and you are required to turn it in on Wednesday, November 27.

Note that homework assignments continue past the TakeHomeFinal.

Only the \* problems are to be turned in for grading.

But you are responsible for working all of the problems assigned.

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Week 1. August 26 - 30

section 1.1 page 10. # 1, 2, 3, 4, 5, 6, 7, 8, 9

section 1.2 page 23. # 6a\*,b\*,c\*,d\*, 10\*, 12, 13, 15\*, 22.\*

Turn in \* problems on Wednesday, September 4

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Week 2. Septemeber 2 - 6

section 1.3 page 42. # 1,2,3,4,5,6,7,8, 9\*, 10\*, 13\*, 14\*, 15\*.

section 1.4 page 56. #1\*, 3\*, 5\*, 6\*.

Turn in \* problems on Wednesday, September 11

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Week 3. September 9 - 13

section 1.4 page 56. # 7\*, 9\*, 13\*, 16\*, 21\*, 32\*, 33\*

section 2.1 page 90. # 1, 2, 3, 4, 5\*, 6\*

Turn in \* problems on Wednesday, September 18

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Week 4. September 16 - 20

section 1.5 page 66. # 3,4,5,6\*,7\*,21\*

section 2.2 page 97. #1,2,3,4\*,5\*,6\*,12\*  
section 2.3 page 105. # 1, 3\*, 5\*  
Turn in \* problems on Wednesday, September 25

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Week 5. September 23 - 27  
section 1.5 page 66. 8\*, 28\*.  
section 2.3 page 105. 8\*, 12\*, 15\*  
section 3.1 page 116. 1\*,5\*,10\*  
Turn in \* problems on Wednesday, October 2

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Week 6. September 30 - October 4  
section 3.1 page 116. 11\*,12\*,13\*,15\*,16\*  
section 3.2 page 125. 1,2,3,4\*,5\*,6\*,7\*,11,14\*  
section 3.3 page 137. 1\*,2\*,3,4,5\*,9\*  
Turn in \* problems on Wednesday, October 9

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Week 7. October 7 - 11  
section 3.4 page 143. 1,2,3,4,5, 7\*, 8\*, 9\*, 10\*, 13\*, 14\*, 17\*,18\*  
section 3.5 page 153. 1,2,3,4,5\*,6\*,7,9\*,10\*,11\*  
section 3.6 page 159. 1\*,2,3\*,4,5,6\*,7,8\*  
Turn in \* problems on Wednesday, October 16

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Week 8. October 14 - 18  
section 4.1 page 174. 1,2,3,4,5,7\*,8\*,9\*,10\*,12,13\*,17,18,24\*  
section 4.2 page 187. 1,2,3,4\*,5\*,6\*,13\*,14\*  
Turn in \* problems on Wednesday, October 23

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Week 9. October 21 - 25  
section 6.1, page 294. 1\*(f)(g)(k), 2\*,3\*,6\*.8\*,9\*,11\*,12\*,13\*,14\*,26\*,31\*  
section 6.2, page 305. 1\*,4\*  
Turn in \* problems on Wednesday, October 30

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Week 10. October 28 - November 1  
section 6.1, page 294. 36,37  
section 6.2, page 305. 3,4  
section 6.3, page 322. 1\*, 2\*, 3\*, 7\*, 18\* (note that an  $n \times n$  matrix is 'defective' if it has fewer than  $n$  linearly independent eigenvectors).  
Turn in \* problems on Wednesday, November 6

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Week 11. November 4 - 8

section 6.3, page 322. 9\*,10\*,12\*,16\*,17\*,19\*,23\*,28\*,31\*

Extra Problems - Pay attention to the suggested problems in the class notes. Some versions of them will be in next week's homework.

Read: Sections 5.1 and 5.2.

Turn in \* problems on Wednesday, November 13

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Week 12. November 11 - 15

Page 384. Chapter Test B. 1\*,2\*,3\*, 4\*

section 5.1. page 212. 1,2,3,4\*,5\*,10\*,15\*,18\*,21\*

section 5.2. page 221. 1\*,2\*,3\*, 7\*,8\*,9\*

Read Sections 5.3 and 5.4.

Turn in \* problems on Wednesday, November 20

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Week 13 November 18 - 22

Turn in \* problems on Wednesday, November 27

TakeHome Exam Distributed.

Turn in TakeHome Exam on November 27.

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Week 14. November 25 - 29

section 5.2. page 222. 12, 13, 14, 16, 17

section 5.3, page 231. 1,2,3,4,5,6,7

This is the week for turning in the TakeHomeFinal on November 27.

Read Sections 5.4, 5.5, 5.6, 6.4

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Week 15. December 2 - 6

We will continue with Chapter 5 and an Introduction to Quantum Computing.

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