MAS 3105 - LINEAR ALGEBRA FLORIDA INT'L UNIV.

HOMEWORK SHEET

THE TEXTBOOK: Linear Algebra with Applications (10th edition) by Leon & de Pillis is

the official textbook for the course. Below are the assigned homework problems for the entire course. Later on some more problems may be added and some of these problems might be deleted. In order to successfully to complete the course you must attempt all the assigned Homework Problems.

Ch.1 Matrices & Systems of Equations:

 Sec. 1.1 Nos 1, 2, 3, 4, 5, 6, 7, 9, 10, 11

 Sec. 1.2 Nos 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 13, 14

 Sec. 1.3 Nos 1, 2, 4, 5, 6, 7, 8, 9, 10, 15, 16, 18

 Sec. 1.4 Nos 1, 2, 3, 4, 5, 7, 9, 10, 11, 14, 15, 16, 17, 22, 24, 28, 36

 Sec. 1.5 Nos 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 19, 21, 22

 Chapter 1 Test A (T/F Questions): # 1-10

Ch.2 Determinants & their uses:

 Sec. 2.1 Nos 1, 2, 3a-g, 4, 6, 11, 12

 Sec. 2.2 Nos 1, 3a-e, 4, 5, 6, 7, 8, 9, 13, 14, 15, 16

 Sec. 2.3\* Nos 1, 2a-b, 5, 6, 8, 10, 11, 12

 Chapter 2 Test A (T/F Questions): # 1-10

Ch.3 Vector Spaces & their Bases:

 Sec. 3.1 Nos 1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 16

 Sec. 3.2 Nos 1, 2, 4, 5, 11, 12, 13, 18, 20, 23, 24, 27

 Sec. 3.3 Nos 1, 2, 5, 6, 8, 13, 14, 15, 19, 20

 Sec. 3.4 Nos 1, 3, 4, 5, 7, 8, 10, 11, 14, 15, 16, 17

 Sec. 3.6 Nos 1, 2, 4, 5, 7, 8, 9, 10

 Chapter 3 Test A (T/F Questions): # 1-12

Ch.4 Linear Transformations:

 Sec. 4.1 Nos 1, 2, 3, 4, 5, 6, 7, 9, 13, 14, 16, 17, 18

 Sec. 4.2 Nos 1, 2, 3, 4, 5, 6, 7, 8, 16, 18

 Sec. 4.3 Nos 1, 2, 3, 4, 9, 10, 11, 12, 13, 15

 Sec. 3.5 Nos 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

 Chapter 4 Test A (T/F Questions): # 1-10

Ch.5 Inner products & Orthogonality:

 Sec. 5.1 Nos 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16

 Sec. 5.2 Nos 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 16

 Sec. 5.3\* Nos 1, 2, 3, 5, 6

 Sec. 5.4 Nos 1, 2, 3, 4, 12, 13, 14, 15, 16, 17, 18, 24, 25, 26, 27

 Sec. 5.5 Nos 1, 2, 3, 4, 5, 6,

 Sec. 5.6\* Nos 1, 2, 3, 5, 6

 Chapter 5 Test A (T/F Questions): # 1-10

Ch.6 Eigenvalues & Eigenvectors:

 Sec. 6.1 Nos 1a-h, 2, 3, 4, 6, 8, 9, 12, 14, 15, 16, 17, 18, 19, 21, 22, 33

 Sec. 6.3\* Nos 1, 2, 3, 4, 5, 6, 30ab, 31ab, 33, 34

 Chapter 6 Test A (T/F Questions): # 1-8 (END 10th ed. HW)

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THE ALTERNATIVE BOOK: Linear Algebra with Applications (9th ed.) by Steven J. Leon.

The 9th edition of Leon’s book is very similar to the 10th edition - and so would hardly make a difference in your performance in the course. Below are the Homework Problems for the 9th edition (*which are almost identical to the 10th ed. HW*).

Ch.1 Matrices & Systems of Equations:

 Sec. 1.1 Nos 1, 2, 3, 4, 5, 6, 7, 9, 10, 11

 Sec. 1.2 Nos 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 13, 14

 Sec. 1.3 Nos 1, 2, 4, 5, 6, 7, 8, 9, 10, 15, 16, 18

 Sec. 1.4 Nos 1, 2, 3, 4, 5, 7, 9, 10, 11, 14, 15, 16, 17, 22, 24, 28, 36

 Sec. 1.5 Nos 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 19, 21, 22

 Chapter 1 Test A (T/F Questions): # 1-10

Ch.2 Determinants & their uses:

 Sec. 2.1 Nos 1, 2, 3a-g, 4, 6, 11, 12

 Sec. 2.2 Nos 1, 3a-e, 4, 5, 6, 7, 8, 9, 13, 14, 15, 16

 Sec. 2.3\* Nos 1, 2a-b, 5, 6, 8, 10, 11, 12

 Chapter 2 Test A (T/F Questions): # 1-10

Ch.3 Vector Spaces & their Bases:

 Sec. 3.1 Nos 1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 15, 16

 Sec. 3.2 Nos 1, 2, 4, 5, 11, 12, 13, 17, 19, 22, 23, 24

 Sec. 3.3 Nos 1, 2, 5, 6, 8, 13, 14, 15, 19, 20

 Sec. 3.4 Nos 1, 3, 4, 5, 7, 8, 10, 11, 14, 15, 16, 17

 Sec. 3.6 Nos 1, 2, 4, 5, 7, 8, 9, 10

 Chapter 3 Test A (T/F Questions): # 1-12

Ch.4 Linear Transformations:

 Sec. 4.1 Nos 1, 2, 3, 4, 5, 6, 7, 9, 13, 14, 16, 17, 18

 Sec. 4.2 Nos 1, 2, 3, 4, 5, 6, 7, 8, 16, 18

 Sec. 4.3 Nos 1, 2, 3, 4, 9, 10, 11, 12, 13, 15

 Sec. 3.5 Nos 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

 Chapter 4 Test A (T/F Questions): # 1-10

Ch.5 Inner products & Orthogonality:

 Sec. 5.1 Nos 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16

 Sec. 5.2 Nos 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, 16

 Sec. 5.3\* Nos 1, 2, 3, 5, 6

 Sec. 5.4 Nos 1, 2, 3, 4, 12, 13, 14, 15, 16, 17, 18, 24, 25, 26, 27

 Sec. 5.5 Nos 1, 2, 3, 4, 5, 6,

 Sec. 5.6\* Nos 1, 2, 3, 5, 6

 Chapter 5 Test A (T/F Questions): # 1-10

Ch.6 Eigenvalues & Eigenvectors:

 Sec. 6.1 Nos 1a-h, 2, 3, 4, 6, 8, 9, 12, 14, 15, 16, 17, 18, 19, 21, 22, 33

 Sec. 6.3\* Nos 1, 2, 3, 4, 5, 6, 30ab, 31ab, 33, 34

 Chapter 6 Test A (T/F Questions): # 1-8 (END 9th ed HW)