

LINEAR ALGEBRA

MTH-240-C1

Time: MWF 9:10 a.m. – 10:10 a.m.

Room: Science 205

Syllabus

Instructor: Dr. Arkady K. Kitover

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Office hours: MW 11:10 a.m. – 12:10 p.m. or by appointment

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Book: Elementary linear algebra by Howard Anton, Edition 10, Wiley

ISBN 978-0470-45821-1

Course contents

Systems of linear equations and matrices. Chapter 1 Sections 1.1 – 1.7

Determinants. Chapter 2

Review 1

Test 1 (50 points)

Euclidean vector spaces. Chapter 3

Review 2

Test 2 (50 points)

General vector spaces. Chapter 4

Review 3

Test 3 (50 points)

Eigenvalues and Eigenvectors. Chapter 5 and Appendix B

Review 4

Test 4 (50 points)

Inner product spaces. Chapter 6, Sections 6.1 – 6.4 ; Section 6.5 (if time allows).

Diagonalization and quadratic forms. Chapter 7, sections 7.1 – 7.3 and 7.5

Linear transformations. Chapter 8 (if time allows)

Review 5

Test 5 (50 points)

Review for the final exam

Final exam (100 points)

Grading.

A: 325 – 350 points

A -: 300 – 324 points

B+: 275 – 299 points

B: 250 – 274 points

B-: 225 – 249 points

C+ : 200 – 224 points

C: 175 – 199 points

C- : 150 – 174 points

D: 125 – 149 points

F: 0 – 124 points

Attendance: for every three unexcused absences your grade will go down by a third of a letter (e.g. from B+ to B).

Lateness is strongly discouraged: the roll will be taken at the beginning of each class.

Class Rules: No food in the class room.

The use of electronic devices: cell phones, laptops, iPads, et cetera, is not allowed in the class room.

Recommended homework. Homework does not count toward your grade but it is very important that you do it regularly and ask questions in class in case of any difficulty.

Section	Pages	Problems
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1.4	49 – 51	31, 53
1.5	58 – 60	15, 25(b), 31
1.6	65 – 66	12, 15, 19
1.7	71 – 73	35
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2.2	105 – 106	15, 29, 35
2.3	115 – 116	29
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3.2	141 – 143	5, 11, 13, 33
3.3	150 – 152	3, 9, 25, 33
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3.5	168 – 169	5, 11, 17, 31, 37
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4.2	188 – 190	1, 7, 11, 13
4.3	199 – 200	3, 9, 13, 23
4.4	207 – 208	9, 13, 15
4.5	216 – 217	5, 9, 21
4.6	222 – 224	9, 11, 19, 23
4.7	235 – 237	3, 6(c)
4.8	246 – 247	5, 13
4.9	260 – 262	1, 11, 21
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4.11	280 – 282	7, 13, 23
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5.2	313 – 315	3, 15, 23
5.3	326 – 327	7, 13, 17, 21
6.1	343 – 344	5, 11, 13, 21
6.2	350 – 352	3, 12, 17
6.3	364 – 366	23, 25, 29
6.4	374 – 375	3, 7(c), 9
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7.2	404 – 405	7, 9, 17

7.3	415 – 417	1, 5, 27
7.5	430 – 432	9, 17, 37
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8.2	451 – 452	11
8.3	457 – 458	1, 9, 13, 21
8.4	466 – 468	7, 11
8.5	473 – 474	19