University of Florida

Andrew Vince
Department of Mathematics

College *of* Liberal Arts *and* Sciences

Linear Algebra

MAS 4105
Spring 2021

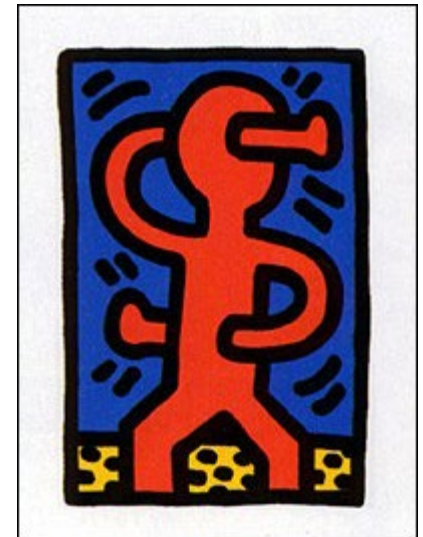This course is online. All information can now be accessed via Canvas.

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Time: MTWF periods 3 and 6
Phone: 352-294-2339
Email: avince@ufl.edu

Textbook: Linear Algebra (4th edition) by Friedberg, Insel, Spence

Office Hours: Monday, Wednesday, Friday − period 4
                              (or by appointment)

TA (grader):   Cameron Fraize   office hours:

Linear Algebra is used extensively in engineering, the sciences and, in particular, data science. After a motivating introduction to linear equations, vectors, and matrices in Euclidean space, the course delves into vector spaces and linear transformations.

Topics

Homework

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Page 14 #8,12,13
Page 20 #4,10,30
Page 32 #2a,b,c, 4a, 5g, 7, 8
Page 40 #2a,d, 4, 5, 9, 10
The null space and range space of an mxn matrix are subspaces of R^n and R^
m, respectively.
due Friday, Jan. 18


Page 54 #2a,3a,8,9,13,16,26,29
Page 74 #3,5,9e,10,12,14a,22
due Friday, Feb. 1


Page 84 #2b,3,4,9
Page 96 #2b,3,4a,b
due Friday, Feb. 8


Page 106 #2a,b,c,d,16
Prove that, for nxn matrices A,B, the matrix AB is invertible if and only i
f A and B are invertible.
Page 116 #2a,b,c,3a,b,4,5,7
Page 166 #5d,e,6a
Page 208 #3a,4a
Page 221 #6,17
Page 229 #9,12,15
due Tues, Feb. 19
Page 257 #3ab,4ae,8b,9,11c,15a,22c
Page 279 #2bef,3ace,7,10,11
due Fri, March 1
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Page 336 #2,3,4b,10,11,12,17
Prove inner product space axiom (3) for Example (3) from class.
due Fri, March 22


Page 353 #2acd,4,7,9,15a,16a,19b,20b
due Wed, April 3


Page 366 #2a,3b,6,8,20a
due Mon, April 8


Prove: If A is normal, then so is A-cI for any scalar c.
Page 374 #2ac,7,11
Page 392 #2c,7,17
Page 404 #2
The intersection of eigenspaces belonging to distinct eigenvalues is trivia
l.
due Fri, April 19 (note the change)
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Grades

3 Exams – 20% each, given at 7:30 pm

February 5

March 17

April 20

Five homework assignments, each worth 2%

The exams will be graded on a sliding scale, the harder the exam, the more lenient the grading. Out of 100, it will never be stricter than 90A, 80B, 70C, 60D.

Homework will receive full credit if there is an honest attempt to do the problems.

Exam and homework grades will be posted on the canvas Grades section within a week, but usually sooner.

Campus Resources

The course will be conducted in accordance with the Academic Honesty Policy and policy regarding the use of copyrighted material.

Students with disabilities requesting accommodations should first register with the Disability Resource Center by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Academic advise and tutoring, as well as health advise (physical and mental) is available to students.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: Attendance Policies

Information on current UF grading policies for assigning grade points may be found at: Grades

Students are expected to provide feedback on the quality of instruction in this course by completing a course evaluation online via GatorEvals. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals or in their Canvas course menu under GatorEvals.

Privacy Policy for canvas and zoom.

Our class sessions may be audio-visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate verbally are agreeing to have their voices recorded.

If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared.

As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.