

MAS 4105: LINEAR ALGEBRA

University of Florida, Department of Mathematics
Course syllabus, Spring 2023

Instructor: Michael Zarichnyi

Email: zarichnyi@ufl.edu

Office: Little Hall 418

Office hours: MW, period 4 or by appointment

Website: <https://people.clas.ufl.edu/zarichnyi/>

Class meetings: MTWF, period 3, in MAEB 0229

Teaching Assistant: Harold Jimenez Polo

Email: haroldpolo@ufl.edu Office: Little Hall 429

Office hours: Monday 9:35–10:25, Tuesday 11:45–12:35

Prerequisites: (MAC 2313 or MAC 3474) and (MAS 3300 or MHF 3202) with minimum grades of C.

Textbook: Linear Algebra, 5th edition, by Friedberg, Insel, and Spence, 5th edition (2019)

Supplementary textbook: A First Course in Linear Algebra by Beezer.

Course description: Linear equations, matrices, vector spaces, linear transformations, determinants, eigenvalues and inner-product spaces. Includes both theory and computational skills. Develops the ability to reason through and coherently write proofs of theorems. For math majors, this course serves as a transition from a study of techniques into more conceptual math; for engineering and science majors, it serves as a coherent foundation in linear algebra.

Schedule and format (tentative): We will make an effort to cover the first six chapters of the textbook, roughly one chapter every two weeks: (1) vector spaces, (2) linear transformations and matrices, (3) elementary matrix operations and systems of linear equations, (4) determinants, (5) diagonalization, and (6) inner product spaces. Mondays, Wednesdays, and Fridays will consist primarily of lecture. Tuesdays will consist primarily of recitation.

Assignments and exams:

- *Homework:* Homework consisting of readings and exercises will be assigned regularly. It will be important for you to keep up with the homework; however, exercise solutions will not be collected or graded.

- *Quizzes:* There will be weekly quizzes, typically on Tuesdays. Each quiz will emphasize material from the previous three lectures, although this may vary depending on the pace of individual lectures.
- *Proof reading and writing:* A major objective of this course is to strengthen your ability to read and write mathematical proofs. Throughout the semester, “proof exercises,” in which you will be asked to prove or disprove a statement, will be assigned. Your solution to a proof exercise should be both mathematically and grammatically sound, written in your own words, and must not be directly copied from any source.
- *Exams:* There will be four exams, each worth 100 points, held in class throughout the semester. The lowest of the first three exam scores will be dropped. Tentative dates of exams are:
 - Exam 1: 2/7 Tuesday
 - Exam 2: 3/7 Tuesday
 - Exam 3: 3/28 Tuesday
 - Exam 4: 4/26 Wednesday

Final grades: Grades will be assigned based on quizzes (20%), proof reading and writing (20%), and exams (60%). Final letter grade assignments will be no stricter than the following: 93–100 A, 90–92 A-, 87–89 B+, 83–86 B, 80–82 B-, 77–79 C+, 73–76 C, 70–72 C-, 67–69 D+, 63–66 D, 60–62 D-, 0–59 E.

Attendance: Attendance is required. We will adhere to the university attendance policies that can be found here: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>.

Grade points and grading policies: We will adhere to the university grading policies that can be found here: <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>.

Diversity statement: The University of Florida and the Department of Mathematics are committed to diversity and inclusion of all students. We recognize the diversity of backgrounds and learning needs of our students and strive to create a more inclusive and welcoming environment for everyone. We strongly believe that an inclusive learning environment promotes higher academic achievements.

Disabilities statement: Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting <https://disability.ufl.edu/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs as early as possible in the semester.

Course evaluation: Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in

a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

Academic honesty: University of Florida students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code.” On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://sccr.dso.ufl.edu/process/student-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. If you have any questions or concerns, please consult with the instructor.

Campus resources:

- Health and wellness:
 - U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-3921575, or visit the U Matter, We Care website at <https://umatter.ufl.edu/> to refer or report a concern and a team member will reach out to the student in distress.
 - Counseling and Wellness Center: Visit the Counseling and Wellness Center website at <https://counseling.ufl.edu/> or call 352-392-1575 for information on crisis services as well as non-crisis services.
 - Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website at <https://shcc.ufl.edu/>.
 - University Police Department: Visit the UF Police Department website at <https://police.ufl.edu/> or call 352-392-1111 (or 9-1-1 for emergencies).
 - UFHealth Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website at <https://ufhealth.org/emergency-room-trauma-center>.
 - GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website at <https://gatorwell.ufsa.ufl.edu/> or call 352-273-4450.
- Academic resources:

- Career Resource Center: Reitz Union, 352-392-1601, <https://career.ufl.edu/>.
Career assistance and counseling.
- Library Support: ask@ufl.libanswers.com. Various ways to receive assistance with respect to using the libraries or finding resources.
- Teaching Center: Broward Hall, 352-392-2010, 352-392-6420, or <http://teachingcenter.ufl.edu/>. General study skills and tutoring.
- Writing Studio: 302 Tigert Hall, 352-846-1138, <http://writing.ufl.edu/writing-studio/>. Help brainstorming, formatting, and writing papers.