

# MA 305 Introductory Linear Algebra and Matrices

Section 001  
Summer 2020  
3 Credit Hours

**Instructor:** Dr. Pedro Aceves-Sanchez

**Office:** SAS 4208

**Phone:** 919-515-7241

**Email Address:** paceves@ncsu.edu

**Office Hours:** Tuesday and Thursday 5:00-6:00 pm and by appointment.

**TA:** Vincent Davis (vodavis@ncsu.edu)

**Course Meeting Time:** Online delivery.

**Prerequisite:** MA 241 or MA 231 with MA 132

Credit is not allowed for both MA 305 and MA 405.

**Materials/book:** The course will be self-contained and the lectures will be recorded. Additional resources will be given on due time during the course.

Textbook (non mandatory): Elementary Linear Algebra with Applications, Ninth Edition by Bernard Kolman and David R. Hill.

**Course Description:** The course is an elementary introduction to matrix theory and linear algebra. Emphasis is given to topics that will be useful in other disciplines, including systems of equations, Euclidean vector spaces, determinants, eigenvalues and eigenvectors, linear transformations, similarity, and applications such as numerical solutions of equations and computer graphics. Compares with MA 405 Introductory Linear Algebra, more emphasis is placed on methods and calculations.

**Learning Objectives/Outcomes:** Learn how to solve and apply linear system of equations, using vector-matrix notations.

**Email/Announcements:** All emails will be sent to your official ncsu.edu email address. Announcements will be posted in the Piazza webpage course.

## Course Topics Schedule:

45% Systems of linear equations.

45% Matrix analysis and vector spaces.

10% Homework revision and preparation for midterms and final.

Important dates:

**1<sup>st</sup> midterm: May 22<sup>nd</sup> (online exam from 1:00 to 2:30 pm)**

**2<sup>nd</sup> midterm: Jun 1<sup>th</sup> (online exam from 1:00 to 2:30 pm)**

**3<sup>rd</sup> midterm: June 10<sup>th</sup> (online exam from 1:00 to 2:30 pm)**  
**Final: 6/17/2020, Wednesday, from 8:00AM - 11:00AM**

**Grading:**

Homework	10%
3 Midterms	60%
Final	30%

**Standard Grading Scale:**  $97 \leq A+ \leq 100$ ,  $93 \leq A < 97$ ,  $90 \leq A- < 93$ ,  $87 \leq B+ < 90$ ,  $83 \leq B < 87$ ,  $80 \leq B- < 83$ ,  $77 \leq C+ < 80$ ,  $73 \leq C < 77$ ,  $70 \leq C- < 73$ ,  $67 \leq D+ < 70$ ,  $63 \leq D < 67$ ,  $60 \leq D- < 63$ ,  $0 \leq F < 60$

**Requirements for Credit-Only (S/U) Grading:** In order to receive a grade of S, students are required to take all exams, complete all assignments, and earn a grade of C- or better. Conversion from letter grading to credit only (S/U) grading is subject to university deadlines. Refer to the Registration and Records calendar for deadlines related to grading. For more details refer to <https://policies.ncsu.edu/regulation/reg-02-20-15/>.

It is important that you consult with your advisor to see if the course will count towards your graduation requirements before taking this course as credit-only.

**Incomplete Grades:** Incomplete grades will be handled on an individual basis. Note, however, that if an extended deadline is not authorized by an instructor or department, an unfinished incomplete grade will automatically change to an F after either (a) the end of the next regular semester in which the student is enrolled (not including summer sessions), or (b) the end of 12 months if the student is not enrolled, whichever is shorter. Incompletes that change to F will count as attempted courses on transcripts. The burden of fulfilling an incomplete grade is the responsibility of the student. The university policy on incomplete grades is located at <https://policies.ncsu.edu/regulation/reg-02-50-03/>.

**Attendance Policy/Absence Policy/Late Assignments/Make-up Work:** We will not record attendance but you are expected to watch the videos posted in the webpage of the course in Piazza. It is your responsibility to keep up with the pace of the course. You will receive an invitation to join the course previous to the first day of class. Late assignments and make-up work will only be allowed for extraordinary causes. You should contact me by email.

We will have fix dates for 3 midterms and the final. However, if for an extraordinary cause you cannot take one of them, you should contact me no later than one week after the missed test to rearrange a makeup test date. You should take every exam!

In addition, if you have at the end of the course at least 90% of the assignments, you will be able to replace the lowest of your midterm scores by the final one.

For complete attendance and excused absence policies, please see <https://policies.ncsu.edu/regulation/reg-02-20-03-attendance-regulations/>.

**Academic Integrity/Honesty:** It is my understanding and expectation that your signature on any test or assignment means that you have neither given nor received any unauthorized aid. Students are required to comply with the university policy on academic integrity/honesty found in the Code of Student Conduct (<https://policies.ncsu.edu/policy/pol-11-35-01/>).

**Electronically-Hosted Course Components:** All reading materials are hosted on the piazza webpage for the course.

Students may be required to disclose personally identifiable information to other students in the course, via electronic tools like email or web-postings, where relevant to the course. Examples include online discussions of class topics and posting of student coursework. All students are expected to respect the privacy of each other by not sharing or using such information outside the course.

**Accommodations for Disabilities:** Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with the Disability Resource Office at Holmes Hall, Suite 304, Campus Box 7509, 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the [Academic Accommodations for Students with Disabilities Regulation \(REG02.20.01\)](#).

**Non-Discrimination Policy:** NC State prohibits discrimination, harassment, and retaliation that are based upon a person's race, color, religion, sex (including pregnancy), national origin, age (40 or older), disability, gender identity, genetic information, sexual orientation, or veteran status (individually and collectively). If you feel that you have been the subject of prohibited discrimination, harassment, or retaliation, you should contact the Office for Institutional Equity and Diversity (OIED) at 919-515-3148.

NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at <http://policies.ncsu.edu/policy/pol-04-25-05> or <http://oied.ncsu.edu/divweb>.

**Trans-Inclusive Statement:** In an effort to affirm and respect the identities of transgender students in the classroom and beyond, please contact me if you wish to be referred to using a name and/or pronouns other than those listed in the student directory.

**Supporting Fellow Students in Distress:** As members of the NC State Wolfpack community, we each share a personal responsibility to express concern for one another and to ensure that this classroom (as well as the campus as a whole) remains a healthy and safe environment for learning. Occasionally, you may come across a classmate whose personal behavior concerns or worries you, either for your classmate's well-being, for your well-being or for the well-being of others. When this is the case, I would encourage you to report the behavior on the link located on NC State's Students of Concern website (<http://go.ncsu.edu/NCSUcares>).

**List of Policies:** Students are responsible for reviewing the NC State University PRRs (policies, rules and regulations) that pertain to their course rights and responsibilities:

- Equal Opportunity and Non-Discrimination Policy Statement <https://policies.ncsu.edu/policy/pol-04-25-05/> with additional references at <https://oied.ncsu.edu/equity/policies/>
- Code of Student Conduct <https://policies.ncsu.edu/policy/pol-11-35-01/>
- Grades and Grade Point Average <https://policies.ncsu.edu/regulation/reg-02-50-03/>
- Credit-Only Courses <https://policies.ncsu.edu/regulation/reg-02-20-15/>
- Audits <https://policies.ncsu.edu/regulation/reg-02-20-04/>