

MAT 531: Linear Algebra
Fall 2011, MW 2:00-3:15PM, BR 164

Instructor: Dr. Dijana Jakelić

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Prerequisites: MAT 335 and MAT 275 (or equivalent)

Text: *Linear Algebra*, 4th Edition, by Stephen Friedberg, Arnold Insel, and Lawrence Spence, Prentice Hall

Course Description/Goals: This is a graduate course in linear algebra. The emphasis will be on those topics that are important for further work in mathematics and for applications. The course begins with the basic (abstract) theory of vector spaces since this is an efficient way to get to the core ideas of the subject. Systems of linear equations are studied from both a computational and theoretical point of view. Basic topics from matrix theory, including determinants, eigenvalues, eigenvectors, and diagonalization will be covered. The course ends with topics from inner product spaces and, if time allows, canonical forms. This course has a mixture of computational and theoretical perspectives. A great deal of attention will be placed on the correct usage of the language of mathematics and reading and writing proofs.

Exams: There will be two midterm exams and a comprehensive final exam. The exams will stress definitions, theorems, examples, proofs, and problems similar to your homework assignments. The midterm exams are planned for Wednesdays: **October 12** and **November 16, 1:30-3:15PM**. The final exam will be given on the date and at the time that is officially assigned – **December 14** (Wednesday), 3:00-6:00PM. Please mark your calendars now and make sure that you are available to take the exams at the scheduled times. If you have any time conflict, make sure to let me know prior to **August 30**. No make-up exam will be approved at a later time, except for extremely urgent situations.

Homework is essential for learning the course material. It will be assigned weekly. It is *your responsibility* to do it in a timely manner, that is, as soon as it is assigned. On a due date of your assignment (approximately every other non-exam week, mostly on Wednesdays) either a short “homework quiz” (quiz consisting of homework problems!) will be given or the homework assignment will be collected. The lowest quiz/homework score will be dropped to allow for illness or other personal concerns. No make-up quiz will be given. A slightly late homework may be accepted at most one time. Please staple your homework pages together and write up your solutions neatly.

Grading Policy: Your course grade will be based on quizzes/homework (25%), two midterm exams (25% each), and the final exam (25%). A plus or minus may be used as a possible course grade modifier influenced by your performance throughout the semester, proximity to a grade borderline, class participation and effort.

Attendance: Regular and punctual attendance is expected and required. If you must miss a lecture, it is your responsibility to find out *everything* that happened the day you missed, whether from another student or from me. That includes both the lecture material and possible administrative matters.

Study Hints: To do well in this course it is essential to study and work out the homework problems on a *regular* basis, that is, to develop a routine. Regular attendance and taking notes are necessary for success. The lectures may or may not follow the presentation in the textbook. After each lecture, read the corresponding section from your notes and the book *before* you start doing the homework problems. You may also find it useful to peruse each section before it is discussed in class. Make sure to pay attention to the correct usage of the language of mathematics while both reading and writing. You are encouraged to check your solutions with others and to discuss difficult problems, but it is imperative that you first attempt to do all of the problems on your own and also that you write down the solutions on your own. Before each class meeting spend at least 5-10 minutes reviewing the concepts covered in the previous lectures. Take advantage of my office hours. Please do not hesitate to ask for help as soon as you encounter difficulties in understanding the material. Also, feel free to talk to me about any course-related concerns or suggestions you may have.

Cell Phones, PDAs, Laptops: Please silence your cell phone and do not make calls, access applications or text during class. If you have a personal, urgent matter for which you need to be on call, please let me know in advance. In addition, you may not have any PDAs or laptops/netbooks/iPads open and active during class. Please report any such distractions.

Academic Honor Code: Complete academic honesty is expected from all students in accordance with the *UNCW Student Handbook and Code of Student Life*.

Students with Disabilities: If you have a disability and need reasonable accommodation in this course, you should inform the instructor of this fact in writing within the first week of class or as soon as possible. If you have not already done so, you must register with the Office of Disability Services in Westside Hall (extension 3746) and obtain a copy of your Accommodation Letter. You should then meet with your instructor to make mutually agreeable arrangements based on the recommendations of the Accommodation Letter.

Religious Observance Policy: In accordance with NC SL 2010-211, you are entitled to two excused absences for religious observances **per academic year**. You must inform me in writing the first week of class if you will be missing any classes due to religious observance and using one of the two permissible absences for the academic year. In addition, make sure to inform the Registrar the first week of class who will then confirm your intentions to miss class with the impacted course instructors. Any absence for religious purposes will be considered unexcused unless you submit the requests in writing the first week.

The UNCW Statement on Diversity in the University Community: As an institution of higher learning, the University of North Carolina Wilmington represents a rich diversity of human beings among its faculty, staff, and students and is committed to maintaining a campus environment that values that diversity. Accordingly, the university supports policies, curricula, and co-curricular activities that encourage understanding of and appreciation for all members of its community and will not tolerate any harassment or disrespect for persons because of race, gender, age, color, national origin, ethnicity, creed, religion, disability, sexual orientation, political affiliation, marital status, or relationship to other university constituents.

Good luck!