

MATH 203 (Linear Algebra) Section 1 Fall 2020

- Section:** MATH 203 - 01 12-1 MWF MBK 219
- Instructor:** Stéphane Lafortune, 332 RSS, lafortunes@cofc.edu, 953-5869 (office).
- Office Hours:** MWF 12-1 (this will change when we return to campus)
- Expected Outcomes:** MATH 203 is the introductory linear algebra course required of all math majors at the College of Charleston and is also a suitable course for students in economics and the natural sciences. We'll cover systems of linear equations and reduced row echelon form, linear, one-to-one and onto transformations, matrix algebra and inverse matrices, determinants and Cramer's rule, vector spaces, linear independence and spanning sets, eigenvectors, eigenvalues and diagonalization, orthogonality, Gram-Schmidt and least squares. Students are expected to display a thorough understanding of the techniques of these topics and, to some extent, the theory behind them. At least one question on each exam will require written proof.
- Text:** Linear Algebra and its Applications by David Lay, either 4th Edition, or 4th Edition Updated. It will make no difference which of these you buy.
- Exams and Grades:** We'll have three (3) midterm exams, a final exam, and weekly quizzes. The three tests are tentatively scheduled on **September 23rd, October 21st, and November 18th**. The Final Exam will be **December 13th, 8-12 or 1-5**. The quizzes will be each Friday unless otherwise announced in class. The first quiz will be on September 4th.
- Each weekly quiz will be based primarily on material covered since the time of the previous exam or quiz, and each midterm exam will be based primarily on material covered since the previous midterm. The final exam in this course will be **cumulative**. Unless I specifically tell you otherwise, you should assume that any topic of this course could appear on the final.
- Each of the three (3) midterm exams is worth 100 points, the final exam is worth 200 points, and the weekly in-class quizzes are worth 50 points altogether. I'll assign letter grades as follows:
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|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Letter grade: | A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- |
| Minimum required score: | 90% | 87% | 84% | 80% | 77% | 74% | 70% | 67% | 64% | 60% | 57% |
- At the end of the semester, I'll calculate your grade two ways--based on the percent you earned of the 500 possible exam points, and again based on the percent you earned of the 550 possible exam and quiz points--and give you whichever letter grade comes out higher.
- Posting of Lectures, HWK, Quizzes and Tests:** A link to the video of the lecture will be posted daily in the Calendar section of OAKS. Furthermore, a list of HWK assignments will also be posted there. HWK will not be collected. On the tests/quizzes day, the paper test/quiz will be posted in the Content Section of OAKS and will be sent by email. For each test, you will have to download it, complete it, scan it and upload it by end of the time allowed.
- Note on technology used in this class:** Oaks will be used throughout the class. Tests will be posted on Oaks. You will not have to print them and can do on your own sheets. However you will have to scan your completed test in a SINGLE PDF file, make sure the file is clearly readable (that's your responsibility), and then upload it back to Oaks. The Final Exam will be the same arrangement.
- Attendance Policy:** Good attendance is a necessary first step towards a good grade. I strongly recommend that you attend class every day.
- If you're absent on a non-exam day, I'll assume that you have a good reason for missing and will not require an excuse. Read the text and try the homework for the day you miss and then bring questions to me in my office. See **Make-up Policy** for absences on exam days.

Make-up Policy:	<p>If you must miss an exam, I expect you to contact me (using all the numbers above) and The Office of Associate Dean of Students (which provides absence validation service for students who can present documentation) as soon as possible. Do not delay. I can allow you a make-up exam only if I determine that your absence at exam time (and every reasonable time until the make-up) is excusable. If you are not sick enough to see a doctor for your illness, then you are not sick enough to miss the exam. An unexcused exam will be given the grade zero, probably causing you to fail the course.</p> <p>I will not allow make-ups for quizzes. If you miss a quiz, you will be given a grade of zero for that quiz. I'll drop your two lowest quiz scores before computing your quiz average. If you miss more than two quizzes for valid and documented reasons, I will only drop the missed quizzes for which you have a documented absence. If you miss a quiz for a valid reason, you must contact The Office of Associate Dean of Students, which provides absence validation service for students who can present documentation.</p>
How to get your best grade:	<p><i>Attend every class, practice lots of homework, and read the book!</i></p> <p>After each class, do as many of the assigned problems as possible. If you run into difficulty, really try; don't flit from one unsolved problem to the next.</p> <p>Don't just do the homework until you get the right answer, but <i>practice</i> homework problems until you can do them reliably on an exam. Practice <i>reading</i> the instructions on homework problems. If you are able to do the homework only after looking at some answers in the back to figure out what the question is asking, then you're not prepared for the exams.</p> <p>Begin extra studying well in advance for the tests, at least a week. Write a special set of notes that summarize in your own words the important facts for the test. Include in these notes the different types of problems appearing in the homework and the steps <i>you</i> follow to solve each type.</p>
Calculators:	No specific model is required for this course. Calculators will be excluded from all exams and quizzes.
Course Objectives:	Math 203 aims at introducing students to the fundamental concepts of linear algebra culminating in vector spaces and linear transformations.
Course SLOs:	<p>On successful completion of the course students will:</p> <ol style="list-style-type: none"> 1. Model a real life problem using system of linear equations and solve it by reducing the augmented matrix to row echelon form 2. Understand the basic ideas of vector algebra: linear dependence, independence and spanning 3. Know how to find the row, column, and null space of a matrix, and be familiar with the concepts of dimension of a subspace and the rank and nullity of a matrix, and to understand the relationship of these concepts to associated systems of linear equations 4. Be able to find eigenvalues and eigenvectors of a square matrix using the characteristic polynomial and will know how to diagonalize a matrix when this is possible.
Program Specific SLOs:	<p>Students will</p> <ol style="list-style-type: none"> 1. Model phenomena in mathematical terms. 2. Derive correct answers to challenging questions by applying the models of SLO 1. 3. Write complete, grammatically correct arguments to prove their conclusions.
Students with Disabilities:	The College will make reasonable accommodations for persons with documented disabilities. Students should apply at the Center for Disability Services, located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are responsible for notifying the Instructor as soon as possible and for contacting the Instructor at least one week before any accommodation is needed.
Integrity Statement:	Students can find a complete version of the Honor Code at http://www.cofc.edu/studentaffairs/general_info/studenthandbook.html