

MATH 310: LINEAR ALGEBRA

COURSE SYLLABUS

VIRGINIA COMMONWEALTH UNIVERSITY

SPRING 2022

SECTION 003

Modality: Online Synchronous
Meeting times: MWF 10:00 - 10:50 am
Meeting location: <https://vcu.zoom.us/j/99279797589>

Instructor:

Brent Cody
Office: Harris Hall 4110
Email: bmcodey@vcu.edu
Personal Website: <http://www.people.vcu.edu/~bmcodey/>

Office hours:

Held at my personal Zoom link: <https://vcu.zoom.us/j/3488900042>
M 11:00am - 12:00noon and W 3:15pm - 4:15pm

Topics:

- (1) **Systems of linear equations** - Gauss-Joran elimination, applications
- (2) **Matrices** - operations, inverses, applications
- (3) **Determinants** - evaluation, properties, applications
- (4) **Vector spaces** - linear independence, basis and dimension, change of basis
- (5) **Inner product spaces** - orthonormal bases, least squares, applications
- (6) **Linear transformation** - kernel, range, matrices and linear transformations
- (7) **Eigenvalues and eigenvectors** - computation and applications

Homework System and Calculator:

Required materials: an ePin for Webassign for Elementary Linear Algebra, 8th Edition by Ron Larson (ISBN: 9781337652254)

https://embed.widencdn.net/pdf/plus/cengage/wbuxhgqmbk/gui_webassign-canvas-stu-quick-guide-TR.pdf?u=c81cjz

Important Note: Your Webassign ePin gives you access to the online homework system and comes with a copy of the textbook, so you are not required to buy a physical copy of the book.

Calculator: You will be allowed to use a graphing calculator (such as a TI-83, 84, or 86) on some quiz and test problems.

Course Website::

All course materials and assignments are on Canvas. To find our course website, log in to Canvas at the link below.

<https://ts.vcu.edu/askit/teaching-and-learning/canvas/>

Summary of Online Aspects of Course:

- Lecture will be held live on Zoom during class time.
- Lecture notes and videos will be posted on Canvas.
- I encourage you to attend all lectures at the Zoom link above during our regular class times.

- You are required to watch all lectures.
- Quizzes will only be available to take on the day of the quiz.
- Tests and the final exam will only be available at a specific time (during class and during our final exam time slot) for a certain time interval.
- For some assignments (quizzes, tests and final exam), once you open them on Canvas, you will have a limited time to upload your work. You will NOT be able to pause the clock and submit your work later. So, when starting a quiz or a test, be sure you will have enough time as well as a stable internet connection to complete the assignment.

Expectations:

“For a student of mathematics to hear someone talk about mathematics does hardly any more good than for a student of swimming to hear someone talk about swimming. You can’t learn swimming techniques by having someone tell you where to put your arms and legs; and you can’t learn to solve problems by having someone tell you to complete the square or to substitute $\sin u$ for y .” —Paul Halmos

The only way to truly learn mathematics is to be actively engaged with it yourself. I therefore expect you to watch all lecture videos, complete all assignments to the best of your ability, and ask questions either in class, during office hours or in the course discussion forum. It is important that you stay up-to-date with the material being covered in the course; please make use of office hours or course discussion forums if anything covered in class is not clear. If the scheduled office hours do not work for you, send me an email to schedule a different time.

In addition to watching the 2 hours and 30 minutes of lectures each week, I expect that you will spend at least 7 hours per week outside of class working on this course.

Grades:

The usual 10-point grading scale will be used to determine course grades (90–100 is an A, 80–89 is a B, etc.). The graded assignments for the course are broken up into four categories as follows.

Homework	18%
Quizzes	18%
Tests	36% (18% each)
Final Exam	28%
Total	100%

(1) Homework (due on Wednesdays): Homework assignments will be submitted through the Webassign system, and will typically be due on Wednesdays by midnight. To get started with Webassign visit the front page of our Canvas site (log in at the link below).

<https://ts.vcu.edu/askit/teaching-and-learning/canvas/>

The first homework assignment is due on Wednesday, January 26 by midnight.

(2) Quizzes (due on Mondays):

Every Monday a timed quiz will be due on Canvas by midnight. For quizzes, you will upload all of your work for each problem on Canvas (photos of handwritten work, or work written on a tablet is fine). In order to receive credit, your work must be uploaded in a common file type such as jpg, pdf, etc. Work submitted by email will not be accepted.

Books, notes, phones, tablets, computers and use of the internet is strictly prohibited during quizzes, as is communication with other people; such activity will be considered cheating.

The first (preliminary) quiz (Quiz 0) will be due on Monday, January 24. For this assignment you will get to know your classmates by answering some questions in a class discussion forum. No math problems will be assigned for Quiz 0, but this will count as a “quiz grade”.

The first solo quiz will be on Monday, January 31.

(3) Tests: There will be two timed tests administered through Canvas, which I will announce at least one week in advance. Tests must be taken during class time (10:00am - 10:50am) on the day of the test. You should **upload handwritten solutions as you go** so that you don't run out of time and fail to upload your work on time. Calculators will typically be allowed for most of the problems, however, you must show all work to receive credit.

- Tests will be graded out of 100 points and partial credit will be given.
- Solutions submitted after the deadline or by email will not be accepted.
- While you are taking tests, use of notes, books and the internet is strictly prohibited, as is communication with other people; such activity will be considered cheating.
- Makeup tests will not be given, but, I will replace your lowest test score with your score on the final exam if it helps your grade.

(4) Final Exam: The final exam, administered through Canvas, will be cumulative and will take place on

Monday, May 9, from 8:00 am to 10:50 am .

Grading and makeup policies:

Late homework will be accepted, but a substantial penalty will be applied. Makeup quizzes and tests will not be given. But, I will drop the lowest quiz grade and I will replace your lowest test score with your score on the final exam if it improves your course average.

Important Dates:

Monday, January 24 Last day of add/drop period
Friday, March 25 Last day to **withdraw** with a mark of “W” .
For other important dates visit: <https://academiccalendars.vcu.edu/>.

University syllabus statement:

Students should visit <http://go.vcu.edu/syllabus> and review all syllabus statement information. The full university syllabus statement includes information on safety, registration, the VCU Honor Code, student conduct, withdrawal and more.

Requesting Accommodation:

The university recognizes that some students who previously did not need Section 504 Academic Accommodations, and who have a qualifying condition or disability, may need support or assistance during the return to campus process. A modified approach for the temporary and more permanent need for accommodation has been developed and implemented to provide students with full access to programs and activities related to their academic majors. Because every case is different, student requests are evaluated on a case-by-case basis. Please share your need for an accommodation with the [Student Accessibility and Education Nondiscrimination Policy Office \(SAEO\)](#), or for MCV Campus students, the [Division for Academic Success](#), after you have worked directly with your faculty member.

Once students have completed the registration process, they should schedule a meeting with their instructor(s) and provide their instructor(s) with an official accommodation letter. Students should follow this procedure for all courses in the academic semester.

Health and well-being:

Navigating the anticipated stressors of daily life can often be challenging enough. When unexpected stressors emerge or when we are faced with uncertainty, it can be tough to know how to cope. Try out some of these [tips and resources for health and wellness](#) to see if they are the right fit for you. Symptoms or Diagnosis: If an on-campus student identifies symptoms, has tested positive for COVID-19 or has come into contact with someone diagnosed with COVID-19, that student should contact University Student Health Services. At that point, isolation should begin and contact tracing will be performed by Student Health Services. Symptoms will be monitored and the student should refer to a medical provider if symptoms worsen or be released from isolation after 14 days, if symptom-free.

Nondiscrimination policy:

VCU is committed to providing a safe, equitable and inclusive environment for all its employees, patients and students. Discrimination or discriminatory harassment is not only unlawful, it is harmful to the well-being of our university community. Our university's core values, specifically those related to diversity and inclusion, have withstood many difficult situations and trying times, and they will not falter now. Reports of discrimination, bullying, harassment and/or stereotyping of persons of color or those impacted by COVID-19 or otherwise, will not be tolerated. Be assured that VCU will make every effort to address and prevent the occurrence of unlawful discrimination and, if necessary, take prompt and appropriate action to remedy and prevent its recurrence. Every member of our community is asked to:

- Become familiar with the university's policies on [Preventing and Responding to Discrimination](#) and [Duty to Report and Protection from Retaliation](#) in the VCU Policy Library.
- Consult with [Equity and Access Services](#) or [VCU Human Resources](#) for additional guidance on how to file a report of discrimination.
- Contact the [Office of Institutional Equity, Effectiveness and Success \(IES\)](#) on how to address and maintain a culture of inclusion.
- Encourage individuals who may need an ADA accommodation for a known or newly acquired disability, to contact the ADA/504 Coordinator in [ADA Services](#).
- Bookmark and share information on university or community agencies that offer support or services, such as [VCU's Counseling Services](#) or [Ombudsperson](#).
- Explore training and educational opportunities on diversity and inclusion at [IExcel Education](#) and through the Office of Institutional Equity, Effectiveness and Success.

Tips for Success:

- When taking online and hybrid courses, your self-motivation and self-pacing are absolutely critical. For this course, you should plan to work on this course about 7-9 hours per week (in addition to watching lecture videos). Be sure to plan your time accordingly.
- Make yourself a calendar with all of your due dates across ALL of your courses. Plan for when you will work on each one for completion in advance of the due dates.
- Make sure you note any "online" courses that still have a required meeting time (such as a Google Meet or Zoom session).
- Plan Ahead!! Study as you go instead of at the last minute!