

Linear Algebra

Math 307-002
3 hours credit
MWF 1:50-2:45
COHH 3123

Instructor: Dr. Spraker
john.spraker@wku.edu
<http://people.wku.edu/john.spraker/home.html>
1-270-745-6220 -- Office
1-270-782-6018 – Home
Office: COHH 3110
Office Hours: MWF 12:25-1:35, MW 2:45 – 4:00
Others by appointment or capture.

Welcome to Linear Algebra! This subject is one of the most applicable fields in mathematics. It is used in many branches of science, business, and social science. This course is fast-paced so keep up. Read the text, listen in class, and do your homework every night. Don't wait to cram before the tests. This is a theoretical course which will involve writing and reading proofs. Feel free to make use of my office hours or contact me by phone and/or email whenever you are having difficulties. If I did not enjoy talking to students, I would not teach for a living.

Learning Outcomes: Upon completion of Math 307 the student will be able to:

- 1) solve systems of linear equations and understand the concepts of existence and uniqueness of solutions.
- 2) prove theorems about matrices, vector spaces, and inner product spaces.
- 3) apply matrix methods.
- 4) understand the concepts of one-to-one, onto, spanning, and linear independence.
- 5) calculate determinants, matrix inverses, eigenvalues, and eigenvectors of $n \times n$ matrices.

Prerequisites: Math 137 with a grade of C or better, or Math 136 with a grade of A or Math 142 with a grade of A or both Math 136 and CS 221 with grades of C or better.

Text: *Elementary Linear Algebra*, 8th edition, by Larson with WebAssign. A hard copy is optional, but access to WebAssign which includes the ebook is required. The class key for this section is **wku 9780 8077**. We will attempt to cover Chapters 1 – 7 in this text. For details on the Day One Access program for WebAssign see the notice from the bookstore below:

This course participates in The WKU Store's Day One Access program. This program is designed to provide immediate access to required materials for all students at prices cheaper than any other option. Required materials will be delivered to you automatically by enrolling in this course unless you choose to opt-out. By participating in this program, The WKU Store will bill your Student Billing account, and you will see a charge appear under this Term along with Tuition and Fees ("Account Summary by Term" under the Student Services tab) labelled as "The WKU Store Purchases" after the Add/Drop period. For more information on this program or to opt-out of participation, go to The WKU Store's website (www.wkustore.com) and click the Day One Access link under the Course Materials header.

Homework: Online homework using WebAssign will be assigned daily.

Exams: There will be three in-class exams and a comprehensive final. The dates are as follows:

Exam I: Friday, February 16
Exam II: Friday, March 23
Exam III: Friday, April 27
Final Exam: Friday, May 11 from 10:30 – 12:30.

The drop date is March 9.

Grading policy: Your grades will be determined in the following fashion:

Exams: 60% Homework: 20% Final Exam: 20%

Additional information

- The Learning Center (TLC) Should you require academic assistance with your WKU courses, The Learning Center (located in the Downing Student Union, 2141) provides free supplemental education programs for all currently enrolled WKU students. The Learning Center at Downing Student Union offers certified, one-on-one tutoring in over 200 subjects and eight academic skill areas by appointment or walk in. Online tutoring is offered to distance learners. TLC is also a quiet study area (with side rooms designated for peer-to-peer tutoring) and a computer lab to complete academic coursework. Please call TLC in the Downing Student Union at (270) 745-5065 for more information or to schedule a tutoring appointment. www.wku.edu/tlc

. Libraries:

1. WKU Libraries has subject specialist faculty members who work with every department and program on campus.
2. Students can make an appointment with the subject specialist faculty librarian any time they have a paper or project.
3. As your own personal librarian, the subject specialist library faculty member sit down with students and helps them get started with their research, makes sure the students know how to use the online resources, etc.

. Students with disabilities: In compliance with university policy, students with disabilities who require accommodations (academic adjustments and/or auxiliary aids or services) for this course must contact the Student Accessibility Resource Center (SARC) in Downing Student Union 1074. The SARC telephone number is (270) 745-5004; TTY is (270) 745-3030. Per university policy, please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the SARC.

. Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding WKU's Title IX Sexual Misconduct/Assault Policy (#0.2070) at <https://wku.edu/eoo/documents/titleix/wkutitleixpolicyandgrievanceprocedure.pdf>

and

Discrimination and Harassment Policy (#0.2040) at
https://wku.edu/policies/hr_policies/2040_discrimination_harassment_policy.pdf.

Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Andrea Anderson, 270-745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121.

Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are “Responsible Employees” of the University and MUST report what you share to WKU’s Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU’s Counseling and Testing Center at 270-745-3159.