Course Information

Course Number:	Math 3320
Course Name:	Linear Algebra and Matrices
CRN:	20547
Location:	MCS 219
Class Hours:	MWF 11:00-11:50am
Textbook:	Linear Algebra with Applications by Holt.
Prerequisites:	Math 1497 or Math 2330

Instructor Information

Name:	Dr. Jeffrey Beyerl
Office Location:	MCS 237
E-mail:	jbeyerl@uca.edu
Phone:	501-450-5652

Office Hours: By appointment or walk-in. Designated walk-in times are:

Monday	10:00-10:50am; 1:00-1:50pm
Tuesday	9:25-10:40am
Wednesday	8:00-8:50am; 1:00-1:50pm
Thursday	9:25-10:40am
Friday	8:00-8:50am

Course Description
This course is required for all majors in mathematics, physics, and computer science. This course introduces matrix algebra, vector spaces, linear transformations, and Eigenvalues. Optional topics include inner product spaces, solutions to systems of differential equations, and least squares.

Course Objectives and Requirements
The primary objective in this course is to understand linear systems, linear spaces, linear operators, and matrix algebra.

Grading Policy

Your grade will be computed from quizzes, three tests, and a final exam. Quizzes will be given at the conclusion of each topic covered. Quizzes cannot be made up for any reason, however when missed due to an excused absence a quiz may be dropped.

Tests will be administered approximately one-third into the semester, two-thirds into the semester, and the last week of class. Make-up tests will only be given for official university events or personal emergencies. In the former case the test must be taken before official test date, in the latter case a short letter explaining why you missed the test, why this justifies a make-up, and supporting documentation must be turned in by the next class day.

The final exam is cumulative and is a significant portion of your course average; it may also be used by the department for internal assessment and can replace the lowest test grade.

The professor reserves the right to add up to two percentage points to the course average for any student that has shown genuine mastery of the course concepts.

Project	5%
Quizzes	15%
Test 1	15%
Test 2	15%
Test 3	15%
Final Exam	35%

Course Average	Course Grade
[90,100]	A
[80,90)	B
[70,80)	C
[60,70)	D
[0,60)	F

Critical Inquiry Project

There will be one cumulative project based on the material in this course. Following a method of analysis discussed in class, you will investigate the application of linear algebra to a topic of your choice (topics must be discussed with and approved by the instructor). The projects will be evaluated based on the common critical inquiry rubric and are worth 5% of the course grade.

Student Learning Objectives

- Be able to solve linear systems in a systematic manner.
- Be able to determine linear dependence and independence of vectors.
- Be able to relate vectors to relevant vector spaces.
- Be able to find and meaningfully interpret the dimension of a vector space.
- Be able to demonstrate the duality between linear operators and matrices.
- Be able to perform algebraic operations on matrices.
- Be able to find bases and perform a change-of-basis.
- Be able to find and meaningfully interpret determinants.
- Be able to find eigenvalues, eigenvectors, and describe their nature.
- Be able to diagonalizable a matrix and find powers of matrices

Attendance Policy
Your active participation in this course is expected and required for you to learn the material and earn a passing grade. If you fail to regularly and actively participate it will demonstrate that you are not making a reasonable effort to complete this course, and you will be administratively dropped for non-attendance with a grade of WF.

Academic Integrity Statement
The University of Central Arkansas affirms its commitment to academic integrity and expects all members of the university community to accept shared responsibility for maintaining academic integrity. Students in this course are subject to the provisions of the university's Academic Integrity Policy, approved by the Board of Trustees as Board Policy No. 709 on February 10, 2010, and published in the Student Handbook. Penalties for academic misconduct in this course may include a failing grade on an assignment, a failing grade in the course, or any other course-related sanction the instructor determines to be appropriate. Continued enrollment in this course affirms a student's acceptance of this university policy.

Americans with Disabilities Act Statement
The University of Central Arkansas adheres to the requirements of the Americans with Disabilities Act. If you need an accommodation under this Act due to a disability, please contact the UCA Office of Disability Services, 450-3613.

Sexual Harassment and Academic Policies Statement
All students are required to familiarize themselves with the University of Central Arkansas policy on sexual harassment and on academic policies. These policies are printed in the Student Handbook.

Building Emergency Plan Statement
An Emergency Procedures Summary (EPS) for the building in which this class is held will be discussed during the first week of this course. EPS documents for most buildings on campus are available at http://uca.edu/mysafety/bep/. Every student should be familiar with emergency procedures for any campus building in which he/she spends time for classes or other purposes.