

COURSE  
INFORMATION

Location: MTH 215  
Class Times: MWF 12:00-12:50  
Instructor: Dr. Karl Frinkle  
Office: MTH 112  
Office Hours: MWF 13:00 – 15:00,  
TR 11:00 – 12:15  
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## TEXT

*Principles of Linear Algebra with Mathematica*, by Kenneth Shiskowski and Karl Frinkle,  
ISBN # 978-0-470-63795-1

## SOFTWARE

A requirement for this course is *Mathematica*. The computer lab in the Mathematics building has *Mathematica* installed on it. If you wish to purchase *Mathematica* for your own personal machine, a student version is available at a reasonable price.

COURSE  
OBJECTIVES

This course will introduce the student to the fundamentals of linear algebra and its applications. We will also spend some time on the computational and programming aspects of the subject. In particular, we will cover topics including: solving linear systems of equations, matrix algebra, matrix applications, vectors, vector spaces, and possibly applications of matrices and vectors to geometry.

## COURSE OUTLINE

There will be reading assignments each day, you may be quizzed on what you are to have read for any given class. Please refer to the *schedule* link on the website for an outline of what we will cover.

Many days the instructor will lecture. In addition to standard lectures, we will attempt to get familiar with *Mathematica* in the classroom. Some classes will be dealing strictly with *Mathematica* and how it can be used in regards to linear algebra. Linear algebra is a topic in mathematics which benefits greatly from the assistance of a computer algebra system such as *Mathematica*. Even simple looking computations can be complicated if done by hand, without no added benefit to the student. *Mathematica* will play an important role in solving these problems. An ideal scenario is having lecture days on Monday and Wednesday, with Friday devoted to *Mathematica*. Writing programs in *Mathematica* to solve more complicated tasks will also be an important part of this course, and will be a portion of your *Mathematica* homework assignments.

Lastly, there will be four exams, three during the semester, and a cumulative final. The final exam will be given during the regularly scheduled time, which is Monday, May 2nd from 14:00-16:00.

## ASSIGNMENTS

You will be required to hand in homework assignments and *Mathematica* based assignments on a regular basis, (at least once a week). These assignments will be listed on the *schedule* link on the website. These assignments count for 30% of your final grade, with each type being half that on its own.

There will be reading and quick problem solve quizzes before the start of most lectures. You are expected to read in advance the material we are to cover. Comprehension of the overarching ideas of the current topics will be the main focus of the reading portion of these quizzes, while short, no-calculator-required computations will be the basis of any problem solving oriented questions. Expect the reading quizzes to take up no more than 5 minutes of each class period (usually at the start). Quizzes will count for 15% of your final grade.

There will be three in-class exams, each one worth 10% of your grade. Depending on how things go throughout the semester, one or more of these exams may be based on solving problems with *Mathematica*. If the exams are in-class, no calculators or computer algebra systems will be allowed.

The final, as mentioned previously, will be cumulative and may consist of both an in-class and a take home portion, either of which may possibly involve *Mathematica*. The final will count for 25% of your final grade.

#### GRADES

Your final grade will be based upon the following items

- 15% - Reading/Problem Quizzes
- 15% - Written Homework
- 15% - *Mathematica* Assignments
- 30% - Three in-class exams.
- 25% - Final Exam

#### POLICIES

You will not be able to make up a quiz or receive credit for any assignment which is past due unless you notify me ahead of time. Given prior notification of an absence, I will ensure that you can take the quiz or hand in your homework at a more convenient time.

Cheating will not be tolerated in any shape or form. If you are caught cheating, it will be reported to the appropriate academic offices, and appropriate action will be pursued and you will fail the course.

**All** electronic devices must be turned off/silenced and put away before class begins. If you are caught using a cell phone or any other unsanctioned electronic device during class, your final grade will be dropped by **one letter grade per incident**. The only exception to this rule is when we use *Mathematica* in class. In this instance, you will be allowed to use laptops in class, or lab computers if we meet in the lab. However, in this situation, you are to only use the computer for mathematical purposes.

It is also expected that everyone will behave in a kind and courteous manner towards fellow students and the instructor. Please be polite to your fellow student they are feeling just as much pain as you.

I reserve the right to change any policies as I see fit to ensure that you are indeed receiving the best possible education that I can give you in the subject matter at hand. If I feel a certain aspect of the course does not appear to be effective in its method, I will attempt to change it (for the better I hope). All changes will be made in writing.

#### IMPORTANT DATES FOR SPRING 2016

- 2016.01.11 - Classes begin
- 2016.01.15 - Last day to enroll in or add classes
- 2016.01.15 - Last day to drop a class with no grade record
- 2016.01.15 - Last day to drop a class with refund/no charges
- 2016.01.18 - Martin Luther King Jr Day (no class)
- 2016.01.22 - Faculty Certifications due by noon on this day
- 2016.03.02 - Assessment Testing Day
- 2016.03.14–18 - Spring Break
- 2016.03.25 - Easter Holiday
- 2016.04.01 - Last day to complete final application for graduation
- 2016.04.08 - Last day to drop a class
- 2016.05.02 - Final Exam, from 14:00-16:00
- 2016.05.06 - Semester ends
- 2016.05.07 - Commencement

#### SPECIAL ACCOMMODATIONS

Any student needing special accommodations due to a disability should contact the Coordinator for Disability Services, GDJ Student Union, Suite 328 or call (580) 745–2392 (TDD# 745–2704). It is the responsibility of each student to make an official request for accommodations to the Coordinator.

**AT-RISK STUDENTS** Any student experiencing mental or emotional issues who desires free, confidential, clinical counseling is encouraged to contact the SE Counseling Center at (580) 745-2988 to schedule an appointment during normal working hours Monday – Friday, 8:00 AM to 5:00 PM. For after hours mental health emergencies, please call SE Campus Police at (580) 745-2911 or the Mental Health Crisis Hotline at 1-(800)-522-1090.

**EQUAL OPPORTUNITY STATEMENT** In Compliance with Title VI of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Sections 503 and 504 of the Rehabilitation Act of 1973, and other Federal Laws and Regulations, Southeastern Oklahoma State University does not discriminate on the basis of race, color, national origin, sex, sexual identity, sexual orientation, age, religion, handicap, disability, or status as a veteran in any of its policies, practices or procedures, this includes but is not limited to admissions, employment, financial aid, and educational services.

**TITLE IX OF THE EDUCATION AMENDMENTS OF 1972** (20 U.S.C. §1681) states: “No person in the United States, shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance...” Southeastern Oklahoma State University does not discriminate on the basis of sex in its education programs or activities, in compliance with Title IX and the U.S. Department of Education’s regulations at 34 C.F.R. §§86.1 et seq. Individuals who believe they have been discriminated against on the basis of sex may contact S.E.’s Title IX Coordinator at (580) 745-3090, [titleix@se.edu](mailto:titleix@se.edu), or PMB 2750.