

Math 225

Linear Algebra with Modern Applications

Course Details

Instructor: Dr. Sergey Lapin

Location: Everett 358

Date/Time: Wed. 5:30-8:00 pm

E-mail: slapin@wsu.edu

Phone: 425-405-1780

Office Hours: TBA

Required Resources:

Lay, Lay, and McDonald, *Linear Algebra and its Applications*, 6th Edition, with online homework through MyLab has been set up with "first day" access. You pay for it with your tuition. Just go to the course materials tab and launch the course. The first time you enter MyLab you may have to accept some terms and conditions.

[Mathematica player \(Links to an external site.\)](#) (free)

[Matlab \(Links to an external site.\)](#) (free to WSU students and faculty)

Prerequisite: MATH 106 with a C or better

Course Overview

Introductory Linear Algebra will provide you with an overview of linear algebraic concepts and techniques, as well as exposure to the linear algebra behind modern applications such as machine learning, artificial intelligence, and economic models. You will improve your computational, theoretical, and applied skills.

Student Learning Outcomes (SLOs)

1. Demonstrate increased understanding and knowledge in core areas of linear algebra, assessed through homework exercises, exams, and use in applications.
2. Develop the ability to play and experiment with linear algebra, assessed by use in homework exercises.

3. Show understanding of where linear algebra is used in modern applications, assessed through exercises and a project.
-

Course Work

The course is set up through *WSU Canvas* and Pearson's *MyLab*, where you can find videos, lecture notes, and your homework.

Effort Expected: Students should expect to spend up to nine hours per week working on material for the course.

Topics covered (with a computational and a written homework per section) : We will cover:

Chapter 1: Sections 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9

Chapter 2: Sections 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7

Chapter 3: Sections 3.1, 3.2, 3.3

Chapter 4: Sections 4.1, 4.2, 4.3, 4.5 and 4.7

Chapter 5: Sections 5.1, 5.2, 5.3, 5.5, 5.9

Chapter 6: Sections 6.1, 6.2, 6.3, 6.4, 6.5, 6.6, & 6.8

Homework: Homework will be assigned through *MyLab*, the online Pearson learning system that should be purchased and includes the electronic textbook. Homework will be assigned through *MyLab* for each section and will be due one week after it is assigned. Computational homework is assessed immediately, and you have the opportunity to continue to work on a task until you get it correct. Conceptual homework is graded by the professor and should be assessed within one week from when it is assigned. Many students find the computational questions challenging. Please reach out to your professor for help when ever you need it.

Grading

Assignment Breakdown	
Assignment	Percent of Overall Grade
Homework and Computer Projects	35%
Applications Project	5%
Midterm	30%

Assignment Breakdown	
Assignment	Percent of Overall Grade
Final Exam	30%

Grading Schema	
Grade	Percent
$100 \geq A \geq 93$	$77 > C \geq 73$
$93 > A- \geq 90$	$73 > C- \geq 70$
$90 > B+ \geq 87$	$70 > D+ \geq 65$
$87 > B \geq 83$	$65 > D \geq 60$
$83 > B- \geq 80$	$60 > F$
$80 > C+ \geq 77$	

Instructor Interaction

Please email me at slapin@wsu.edu to schedule an appointment.

Late Work Policy

Late homework will be assessed a late penalty of 25%, and must be completed by the end of the course. There will be a computer project for each chapter, for a total of six computer projects. Late computer projects will also be assigned a penalty of 25%. Late applications projects cannot be accepted.

University Syllabus

Students are responsible for reading and understanding all university-wide policies and resources pertaining to all courses (for instance: accommodations, crisis resources, policies on discrimination or harassment), which can be found in the university syllabus:

<https://syllabus.wsu.edu/university-syllabus>Links to an external site.