Spring 2025 Math 211 Section 02 - Linear Algebra Syllabus

Contact Information

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Classroom: Reese 301

Office hours: M 1-2PM, W 12-1PM, R 2-3PM, F 12-1PM You are encouraged to schedule appointments regularly. Appointments can be made for small groups as well.

Lectures: MWF 08:30AM - 09:45AM

All times are EST.

Required textbook

Linear Algebra with Applications, 5th Edition

The course textbook is very dense. We will not cover everything from the sections we encounter. Instead, certain content from the sections we cover will be emphasized. The reading material (see below) is a good indication of the essential content of each covered section.

You may access the book through the library using the following information.

Call number: QA184.2 .B73 2013

Below is a link to the second edition. WARNING: You are responsible for verifying that the exercise numbers for the second edition align with the exercise numbers from the fifth edition.

https://archive.org/details/linearalgebrawit0000bret_j3k8/mode/2up

Course Web page

All course information will be posted on the course web page at https://derekyoungmath.bitbucket.io/spring_25_211_02/. Please check the course web page frequently for all assignments, solutions and other resources.

Zoom Meeting

Any Zoom meetings will be hosted at the following link https://mtholyoke.zoom.us/j/99679423499. During the meetings you are required to keep your video on throughout the meeting unless you have a reason for turning it off.

Computer Software

Use of computer software to help you answer questions on assessments or exams is prohibited.

Course Objective

Throughout the course you will learn how to:

- solve systems of linear equations
- describe the solution set of a system of linear equations
- recognize abstract vector spaces in natural contexts and apply the theory of linear algebra to analyze these spaces
- use geometry and algebra to understand linear transformations and connect the analysis of these transformations to the analysis of a system of linear equations
- use and explain algorithms for computing orthonormal bases, eigenvalues, and eigenvectors

In addition, you will learn how to communicate complex mathematical ideas precisely by reading and writing mathematical proofs, developing strong mathematical and logical arguments, and articulating clear questions.

Participation/ Attendance:

Active participation in class discussions and activities is expected and encouraged. Your engagement and contributions to the learning environment are valuable components of this course. Participation will be assessed based on:

- Regular attendance and punctuality
- Thoughtful questions and comments during lessons
- Engagement in group work and collaborative activities
- Respectful and constructive interactions with peers and instructor
- Timely completion of in-class assignments and activities

By actively participating in class, you will not only enhance your own understanding of mathematical concepts, but also contribute to a supportive and inclusive learning community.

Before Class

Reading Material

Reading material is content from the course book which is related to the next lecture. Reading this content before the next lecture will open your brain so that I can dump math inside.

Some of the reading content will require you to know terminology which we will have not yet covered. This means you will have to learn the unfamiliar terms in the reading by scanning the previous content from the assigned section.

Reading material is assigned each lecture and will be posted on the course page under the date on which it is assigned.

Reading Questions

Reading questions are questions that are related to the reading material.

Reading questions will be posted on the course survey page https://derekyoungmath.pythonanywhere.com/spring_25_211_02_reading_questions at least 2 hours before each lecture and will be due before each lecture.

Reading questions will be graded on a credit no credit basis.

During Class

Groups

At the beginning of the semester I will be putting you into groups. If you would like to be in a group with someone please let me know via email as soon as possible. By the end of the second week of classes you should be assigned a permanent group.

Working in groups is supposed to help you learn better than working by yourself. With this being said, it may take time for everyone in your group to get on the same page. Once this is done you should have more resources. Please let me know as soon as possible if working in your group is not benefiting you.

You will work with your group to discuss reading questions. You will also work with your group to solve the worksheet problems (see below).

Lectures

During the lectures you should take notes in a notebook. You won't have to write down everything that I write down because I will be posting the lecture notes on the course page after each lecture. During the lectures, it is a good idea to write down questions, comments, and ideas. By the way, if you have any questions during the lecture feel free to stop me and ask your questions. You don't have to raise your hand. Chances are I won't see your raised hand immediately if you decide to raise it because I will probably be writing.

Worksheets

Worksheets are a set of problems directly related to the lecture material as well as the homework assignment. If you understand everything from the lecture then correctly answering the first couple of problems from the worksheet should be easy.

After each lecture a worksheet will be assigned which you will work on with your group.

Everyone should be writing their own solutions to the problems. You have probably heard this before but I will let you know anyway. You will gain a relevant understanding of the solution if you put it in your own words.

JOURNALS

Journals are a collection of your solutions to the problems from the worksheets. To create your journal you will need to scan your worksheets and merge them to create one pdf file.

Journals will be due on the same day of the homework assignment.

Journals will be graded on a credit no credit basis.

ASSESSMENTS

Assessments are opportunities for **you** to communicate your understanding of the problems from your homework assignment. Therefore if you don't understand how to do a problem on your homework assignment you should get help before turning in your homework assignment.

Assessments are opportunities for **me** to give you feedback on your understanding of the problems from your homework assignment.

There will be weekly assessments which are based off of the homework problems. The assessments will be given at the end of class on Fridays and will last 15-20 minutes.

EXAMS

Exams are opportunities for **you** to express your understanding of the content from the lectures. A good way to prepare for the exams is to review the problems from the journals, assessments, and homeworks.

Exams are opportunities for **me** to give you feedback on your understanding of the content from the lectures.

There will be 2 in-class exams given during the regularly scheduled class period. Please see the schedule posted on the course web page for all exam dates.

After Class

HOMEWORK

Homework will be assigned once a week. Homework assignments will typically be assigned on Wednesday and due 5:00PM EST on the Friday of the next week. Deadlines for homeworks are strict. Please see the schedule on the course web page for homework due dates. You are allowed to share ideas with other students on homework assignments, but you are expected to submit your own answers.

Each week you will turn in assigned problems for the book. It is not enough to turn in correct solutions for these problems. You will need to study the assigned problems. Hence you need to know what you know and what you don't know about the problems before you turn in the assignment. If you are able to present your homework problems to someone in the class without using any resources(including your soluitons) then you are prepared to turn in your assignment. Otherwise, get help (See how to do this below.) ASAP or do more problems!

Having a concrete understanding of the homework problems before you submit the homework assignment is important since you won't be getting feedback on your assignment before you take your assessment related to the assignment. If you would like verbal feedback on your assignment before taking the assessment related to the assignment come see me during office hours. You may also check with the TA.

You may redo any problem that you incorrectly answer. However, your redo is due by the due date of the next homework assignment.

Grading

GRADING

5.0% – Reading Questions

10.0% – Journals

10.0% – Participation

20.0% – Homeworks

20.0% – Assessments

20.0% – Exams

15.0% – Final Exam

GRADING SCALE

A	$93-100\%$	C	$73-76\%$
$A-$	$90-92\%$	$C-$	$70-72\%$
$B+$	$87-89\%$	$D+$	$67-69\%$
B	$83-86\%$	D	$63-66\%$
$B-$	$80-82\%$	$D-$	$60-62\%$
$C+$	$77-79\%$	F	$0-59\%$

REDOS

You will be allowed to redo problems on homeworks, assessments and exams by resubmitting the problems from the assignment. Each assignment can be redone once for a maximum of 90% of the assignment. For in-class exams, your redo can only increase your score by 20% of the total possible points. You will have one week from the time your assignment is returned to submit any redos. In order to redo any assignment you must attend class on the day the material from the assignment was covered. Also, you must submit the assignment by the deadline in order to redo it.

Advice

Assignments are a way for me to give you feedback. Your grade will be heavily determined by your overall communication of the course content.

Disability Services Statement

If you need official accommodations through Disability Services, you have a right to have these met and kept confidential. Please contact Disability Services, disability-services@mtholyoke.edu. If you are eligible for academic accommodations, you will be provided with an accommodation letter.

To use an accommodation, request to use the accommodation in advance. This gives me time to prepare for the accommodation.

Once you receive your accommodation letter, please book an office hours appointment with me. We will discuss your approved accommodations and how to make them work for our class.

For more information on who might be eligible for accommodations and the application process, please see the Disability Services website. (www.mtholyoke.edu/directory/departments-offices-centers/disability-services)

Academic Integrity

"Aka the Honor code aka Don't Cheat!" You need to put in hard work in order to learn, thus it is very important for you to follow the Honor Code in all of your work.

Collaboration on homework assignments is encouraged. All weekly homework assignments will require you to disclose collaborators and outside resources.

It is a violation of the honor code to use sources like a solution manual or chegg.com without citing them. I highly suggest this resource about citing sources and understanding plagarism: from LITS, How to Use Sources Properly.

Assessments and exams will be closed book (no outside resources allowed).

If plagiarism or cheating occurs, you will not be given credit for that assignment and that assignment may not be redone.

If you have any questions about what constitutes an Honor Code violation in this class, please talk to me! Honor Code violations will be brought to the Academic Honors Board.

Getting Help When you struggle, the following are sources to access more help:

1. Me! Please, please let me know repeatedly that you need more help. The earlier the better. This is what I am here for. You can not bug me enough.
2. Ask classmates! Form a study group! Post extra questions to the course forum!
3. Ask the TA/grader in the help sessions.
4. Talk to me about getting personalized help from a tutor.

NOTE The syllabus may be changed at anytime.