Andrews University

Fall Semester 2020

MATH-215-001, -002 Introduction to Linear Algebra

This syllabus may be revised at any time at the discretion of the instructor.

Course Content and Bulletin Course Description

Course description from the Bulletin: Vectors, Euclidean n-space, matrices, systems of linear equations, determinants, eigenvalues, eigenvectors, vector spaces, and linear transformations with emphasis on applications and computation.

Course Prerequisites

Prerequisites: MATH 182, MATH 191, or MATH 195

General Class Information

Section 001 (IN-PERSON) MW 2:00-3:15 in HYH 133 (Science Complex, Math/Physics Amphitheater).
Section 002 (REMOTE) Video of lecture will be uploaded same day in WebAssign. Keep MW 2:00-3:15 open for exams.
Credits: 3

Covid-19

I love my students and I love working side-by-side with them on math problems. Sadly, I cannot do that this semester. Because we care about each other, all in-person class members will commit to the following. #1-4 are university policies, and #5-6 are my own class policies.

1. Wear a mask that covers your nose and mouth at all times inside the classroom and in enclosed spaces.
2. Follow the instructions of your teacher and posted signs for entering/exiting the classroom, selecting a seat, and cleaning your area. The University has asked that we have assigned seating to facilitate contact tracing.
3. Do not physically attend class if you do not feel well or are exhibiting symptoms or believe you may have been exposed to COVID-19. You will be able to watch the lecture video and do your homework online.
4. Commit to creating a safe classroom environment which precludes posting class materials (including links to unlisted videos or clips of videos removed from context) to social media or other forums. Disparaging faculty and classmates on social media or in virtual spaces is a breach of Christian ethics and the Andrews University community agreement.
5. Remain at least 3 meters from the teacher if you ask questions after class; please do not come all the way down to the front level or approach the front desk. If you need to show me your work or something on the computer, please schedule a Zoom meeting (see Instructor Contact Information below). I am terribly sorry about this! **I have two elderly parents at home and I have to be very careful.**
6. Please contact me if any situation arises that interferes with your learning. **I understand that some people cannot follow some of these covid guidelines for a variety of reasons.** It is okay. In order to respect the others in the class, you will join the remote section (-002) instead of the in-person section (-001).

These COVID-19 policies will be enforced because we care about each other.

Lecture Videos

Each lecture will be recorded on video and posted after class on your personal WebAssign homepage under "Announcements". Remote students are expected to watch each video. I suggest you take notes as you do so. Of course, in-person students can watch the videos, as well.

Instructor Contact Information

Instructor: Dr. Shandelle M. Henson
Email: henson@andrews.edu
URL: http://www.andrews.edu/~henson/current.html **All class materials are found here** (not on LearningHub).

I am available by email; I am available through the WebAssign "Ask Your Teacher" function for specific homework questions; and I am available by appointment on Zoom (see below how to make a Zoom appointment). Because of the pandemic, I am so sorry that I will not be able to meet with you face-to-face in my office. But remember, I am here for you.

Times of availability

Email and WebAssign questions: You may write to me at any time, and I will answer as soon as I can during this time window: SMTWR 11:00 am – 7:00 pm Eastern Time. I may or may not be able to answer during other times.

Zoom office hours: MW 4:00-5:00 pm Eastern Time. **Please sign up for time slot** at http://www.andrews.edu/~henson/current.html. Sometimes I will have a department meeting during these times, but I will reschedule the office hours on those days.

Student Contact Information

Make sure to check your Andrews email address. You are responsible for any information I send the class from the iVue email system.

Textbook and Course Materials

READ THIS CAREFULLY:

You are **REQUIRED** to have the following 2 things. You can buy them as a bundle from the bookstore OR you can buy the components separately online if you already have access to one or more of the components. If you want the bundle, please order it right away from the bookstore, because you'll want it during the first week of classes.

1. Textbook: David Poole, *Linear Algebra: A Modern Introduction, Edition 4*. **You need Edition 4**. You can get this as part of the bundle, or you can buy it separately. Do NOT buy an "international edition" or pirated copy or old edition! The pagination will not be the same. You will need to have the same page numbers as the teacher is using because there will be reading assignments.

2. WebAssign subscription (the company is Cengage). Some of you may already have a paid WebAssign or Cengage subscription from another class. If not, you must buy one. You can buy it in the bundle, or you can buy it separately at https://webassign.com/. When you go into WebAssign, you will need the **CLASS KEY:**

IN-PERSON section -001: andrews 5234 2486
REMOTE section -002: andrews 0380 0221

This allows you to sign up for my class in WebAssign. You can sign up early in order to get on the roster, but you will not see the course content until Sun 23 Aug 2020. You will have a two-week free "grace period" until Sun 06 Sep 2020 before you have to pay. At that point you must pay, either by entering the Access Code that came with your bundle, or else by paying WebAssign with a credit card online (if you did NOT buy the bundle). **If you do buy the bundle, enter your Access Code (that comes with the bundle) right away to make sure it works.** That way, if there is a problem, you will still have the grace period to find a solution.

NOTE: When you sign up for WebAssign and join my roster, please **use the SAME NAME that iVue uses for you.** Otherwise there can be a problem mapping between WebAssign and iVue.

Bookstore Bundle contains: Poole textbook + WebAssign
Bundle ISBN 9781305720749

For price information, please see the listing at the Andrews University Bookstore www.andrews.edu/bookstore.

Course Objectives

The primary objectives of this course are to:

1. Develop critical thinking skills
2. Learn the computational skills and theory of introductory linear algebra
3. Learn some applications of linear algebra

Homework (20%)

Homework is 20% of your grade and is due at the beginning of each class. You will do your assignments in WebAssign.

Advance Readings (10%)

There will be an Advance Reading due at the beginning of most class meetings. This will prepare you for the day's class lecture and discussion. This is 10% of your grade.

In-class Exams (15% + 15% + 15%)

There will be three chapter exams in class. Each will be worth 15% of your grade.

Final Exam (25%)

There will be a **comprehensive Final Exam on Monday 23 November at 1:30-3:30pm Eastern Time**. The final exam is worth 25% of your grade. Every student will take the entire comprehensive Final Exam. It will be organized into 4 parts. Parts I-III will address the material covered on the 3 chapter exams, and Part IV will address the material covered after the last chapter exam. If the grade on Part X of the Final Exam is greater than the grade on Chapter Exam X, then the grade on the chapter exam is replaced by the grade on Part X of the Final Exam. For example, if you miss Chapter Exam 2 (and thus get a zero) or you get 68% on it, and you get 92% on Part II of the Final Exam, then your Chapter Exam 2 grade will become 92%. The replacement does not operate in the opposite direction (your Final Exam score is what it is and does not change).

Make-up Work Policy for both Excused and Unexcused Absences

1) No make-up Homework or Advance Readings are accepted for any reason. Instead, I will drop your 2 lowest Homework scores and your 2 lowest Advance Reading scores.

Note: If you are ill for more than a week and are too ill to do your work online, get a note from the doctor or dean and contact the instructor as soon as possible.

2) No make-up (or early) chapter exams are given for any reason. Instead, you would receive the replacement score from the corresponding Part of the comprehensive Final Exam (see explanation of Final Exam in section above).

3) No make-up Final Exams are given. By University policy you MUST take the final exam at the scheduled time. If you have a legitimate emergency according to University policy, then you may take an Incomplete and make up the Incomplete at a later time, but only in consultation with the instructor. **If you miss the Final Exam for any other reason, you will receive a zero on the Final Exam.**

Assessment and Grading Scale

A course percentage grade will be calculated from:

Homework (20%)
Reading in Advance (10%)
Test I (15%)
Test II (15%)
Test III (15%)
Final Exam (25%)

93-100 A; 90-92 A-; 87-89 B+; 83-86 B; 80-82 B-; ... ; 60-69 D; 0-59 F

Here is the University policy on the grade of Incomplete:

An Incomplete can be assigned only if the following stipulations are met:
1. The major portion of the work for the course has been completed
2. The student's work is incomplete because of illness or unavoidable circumstances
3. Incomplete cannot be assigned because of negligence or inferior performance.

Integrity and Collaboration

Homework and Advance Readings: Discussion of homework is fine, but **each student must independently write up his or her own solutions** in his or her own WebAssign account. **It is cheating to have someone else do your assignment in WebAssign or to utilize answers without working the problem yourself. It is cheating to say you did the reading assignment when you didn't.**

Exams: There is no collaboration on exams. **It is cheating to write an exam for someone else. Both parties are responsible.**

Honesty in all academic matters is a vital component of personal integrity. Any breach in academic integrity is serious. Acts of academic dishonesty are subject to action by the University Integrity Council and will be recorded in your integrity file.

Getting Help

1) Teacher: See Instructor Contact Information above.
2) Student Success Center: success@andrews.edu. See http://www.andrews.edu/academics/student_success.html.

Other Course Policies

Disability Accommodation
If you qualify for special assistance under the American Disabilities Act, please contact the Student Success office at Nethery Hall 100 or disabilities@andrews.edu.

Professionalism
We will show respect for each other at all times. Certain behaviors/activities are not professional.

- Cell Phones, Personal Laptops, and Recording devices: **Cell phones should be silenced or on vibrate** in the classroom. **Picture-taking during class and recording devices are allowed only if pre-approved by instructor, and if approved, under no circumstance are pictures or recordings—visual or verbal—to be posted on a public website.** Laptops, iPads, texting, etc. should not be used except by permission of the instructor. It is unprofessional to use these devices inappropriately when someone is speaking to you. Please talk to the teacher if you need to use a device.
- Earbuds: Do not wear earbuds or earphones during class. This is unprofessional.
- Eating in class: Do not eat in class without permission. Water or a hot drink is fine.
- Talking; walking in and out of class: Don't talk when the instructor is talking. Use the restroom before you enter the classroom. It is unprofessional to walk in and out of class unless you have an emergency.
- How will you be perceived as a professional? Active participation in discussions is an essential part of learning to be a professional. Without participating and expressing opinions and thoughts, it is difficult to develop a personal style.
- Get to know your professors; otherwise they will not be able to write strong letters of recommendation for you.
- Being present and on time is a very important part of professional behavior.

Emergency Protocols
Andrews University takes the safety of its student seriously. Signs identifying emergency protocol are posted throughout buildings. Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting that specific location. It is important that you follow these instructions during any evacuation or sheltering emergency.

If the teacher does not arrive on time to class
If a teacher is detained and will be late, the teacher will send a message, if possible, to the class with directions. If after 10 minutes no message has been received, students may (and should) leave without penalty.

Instructor Profile

Shandelle Marie Henson is a mathematical ecologist. She has a PhD in Mathematics from the University of Tennessee, Knoxville (partial differential equations) and an MA in Mathematics from Duke University (mathematical logic). She did postdoctoral work at the University of Arizona, Tucson (bifurcation theory). Her research area is dynamical systems, with a focus on bifurcations and chaos as applied to ecology. Her husband is Dr. Jim Hayward, Research Professor of Biology. They do joint research in mathematical behavioral ecology, working with seabirds. They are enthusiastic about hiking, geology, rock collecting, reading, writing, classical music, art, healthful living, and of course, research. Dr. Henson also enjoys oil painting, cooking/baking, and trail running. She has a passion for understanding what it means to follow Jesus in the 21st century.