MA 322: Matrix Algebra

Fall 2018
CB 212
MWF 1-1:50

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Office Hours: WF 9:30 – 10:50

Prerequisites: The prerequisite course for this class is MA 114.

Course Website: www.ms.uky.edu/˜dhje223/MA 322 Fall 2018.html.

Text: Linear algebra and its applications by Lay, **fourth or fifth** edition

Exams and Assigments: All exams and assignments should be neat, legible, and written in complete sentences.

Exams: There will be two exams during the semester. They are tentatively scheduled for:

Friday, September 28,
Friday, November 9.

If these dates change, an announcement will be made in class at least a week before.

The questions on the exams will be similar in style and content to the homework questions.

Final Exam: The final exam for this course will be

Thursday, December 13, 3:30 – 5:30 PM.

It will be cumulative.

Homework: There will be both written and online homework for this class.

Late homework will not be accepted.

Written homework will be due at the beginning of class each **Wednesday**. Assignments will be posted on the course website. On each assignment selected problems will be graded and there will be partial credit. The lowest homework score will be dropped at the end of the semester.

Online homework can also be found at the course website. Due dates will be posted with individual assignments.

I encourage you to discuss assignments with other students, but your solutions must be written up independently. See the discussion of academic integrity below.

Quizzes: There will be very short quizzes once or twice a week. These will be at the beginning of class and cover the content, homework, and reading assignment of the previous class.

Without an excused absence,

quizzes cannot be made up.

The lowest three quiz grades will be dropped at the end of the semester.

Grades: Final grades will be determined using the following distribution:

	Percentage of course grade
Final exam	30
Exam 1	20
Exam 2	20
Homework	25
Quizzes	5

Final grades will be assigned according to the standard scale.

Course Grade	Percentage
A	90% - 100%
B	80% - 89%
C	70% - 79%
D	60% - 69%
E	below 60%

Course Calendar

Week	Reading	Topics	Exam
8/22–8/24	1.1, 1.2	Systems of Linear Equations and Row Reduction	
8/27–8/31	1.3, 1.4, 1.5	Vector Equations and Solutions to Linear Systems	
9/3–9/7	1.7, 1.8	Linear Independence and Linear Transformations	
9/10–9/14	1.9, 1.10, 2.1	Matrices, Applications, and Matrix Operations	
9/17–9/21	2.2, 2.3, 2.8	The Inverse of a Matrix and Subspaces of $\mathbb{R}^n$	
9/24–9/28	2.9	Dimension and Rank	Exam
10/1–10/5	3.1, 3.2, 3.3, 5.1	Determinants, Eigenvectors, and Eigenvalues	
10/8–10/12	5.2, 5.3	The Characteristic Equation and Diagonalization	
10/15–10/19	5.4, 5.5, 6.1	Eigenvectors and Inner Product	
10/22–10/26	6.2, 6.3	Orthogonality	
10/29–11/2	6.4, 6.5, 6.6	Gram-Schmidt and Least Squares	
11/5–11/9	4.1	Vector Spaces	Exam
11/12–11/16	4.2, 4.3, 4.4	Bases	
11/19	4.5	Dimension	
11/26–11/30	4.6, 4.7	Rank and Change of Basis	
12/3–12/7	None	Select Topics	

Classroom Demeanor: Turn off all cell phones or other electronic devices prior to entering the classroom. An attitude of respect for and civility towards other students in the class and the instructor is expected at all times.

Attendance: Class attendance is expected of all students.

Excused Absences: Students need to notify the professor of absences prior to class when possible. Senate Rules 5.2.4.2 defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit reasonable cause for nonattendance by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day in the semester to add a class. Information regarding major religious holidays may be obtained through the Ombud

(859-257-3737, http://www.uky.edu/Ombud/ForStudents_ExcusedAbsences.php.)

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused) per University policy.

Per Senate Rule 5.2.4.2, students missing any graded work due to an excused absence are responsible: for informing the Instructor of Record about their excused absence within one week following the period of the excused absence (except where prior notification is required); and for making up the missed work. The professor must give the student an opportunity to make up the work and/or the exams missed due to an excused absence, and shall do so, if feasible, during the semester in which the absence occurred.

Verification of Absences: Students may be asked to verify their absences in order for them to be considered excused. Senate Rule 5.2.4.2 states that faculty have the right to request "appropriate

verification" when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to University-related trips is required prior to the absence when feasible and in no case more than one week after the absence.

Academic Integrity: Per University policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the University may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website:

<div align="center">http://www.uky.edu/Ombud.</div>

A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Senate Rules 6.3.1 (see http://www.uky.edu/Faculty/Senate/ for the current set of Senate Rules) states that all academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording, or content from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work (including, but not limited to a published article, a book, a website, computer code, or a paper from a friend) without clear attribution. Plagiarism also includes the practice of employing or allowing another person to alter or revise the work, which a student submits as his/her own, whoever that other person may be. Students may discuss assignments among themselves or with an instructor or tutor, but when the actual work is done, it must be done by the student, and the student alone.

When a student's assignment involves research in outside sources or information, the student must carefully acknowledge exactly what, where and how he/she has employed them. If the words of someone else are used, the student must put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content, and phraseology intact is plagiaristic. However, nothing in these Rules shall apply to those ideas, which are so generally and freely circulated as to be a part of the public domain.

Accommodations due to disability: If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (DRC). The DRC coordinates campus disability services available to students with disabilities. It is located on the corner of Rose Street and Huguelet Drive in the Multidisciplinary Science Building, Suite 407. You can reach them via phone at (859) 257-2754 and via email at drc@uky.edu. Their web address is http://www.uky.edu/StudentAffairs/DisabilityResourceCenter/.

August 9, 2018