

MATH 2853, Elementary Linear Algebra, Spring 2018

Section: 01 **Hours Credit:** 3 hours

Room and Hours: Boyd 304, MWF: 11:00 am – 11:50 am

Prerequisite: MATH 1634 or MATH 1501 with C or better

Instructor: Dr. Kwang Shin

Office Hours: MWF (10:00 am -11:00 am and 12:00 pm – 1:20 pm) or by appointment.

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Course Webpage: <http://www.westga.edu/~kshin/2853/>

Course Description: A concrete, applied approach to matrix theory and linear algebra. Topics include matrices and their connection to systems of linear equations, Gauss-Jordan elimination, linear transformations, eigenvalues, and diagonalization. The use of mathematical software is a component of the course.

Text: Linear Algebra and Its Applications, 5th Edition by David C. Lay, Steven R. Lay, and Judi J. McDonald, Pearson Publishing.

Learning Outcomes: Upon successful completion of the course, the student will

1. Be able to express linear systems of equations in matrix form.
2. Be able to solve systems of linear equations using Gauss-Jordan elimination.
3. Be able to perform basic matrix operations and compute matrix inverses and determinants.
4. Be introduced to the basic properties of real vector spaces and subspaces including properties such as linear independence, span, basis, rank.
5. Examine linear transformations and their applications.
6. Be able to compute eigenvalues and eigenvectors of a square matrix.

Hour Exams: Exam 1 (Wed, Feb 7), Exam 2 (Fri, Mar 16), Exam 3 (Wed, Apr 25).

Final Exam: Friday, May 4, 11:00 am -- 1:00 pm. The final exam will be cumulative.

Homework: Homework will be assigned every day and posted at the course website. Homework will be collected at the beginning of the next class for grade. Doing homework in timely fashion is essential for the success in this course. Partial credit will be considered for incomplete work. However, **late submission will receive zero point.** The total homework score will be converted to a 70 point scale at the end of semester.

Quizzes: There will be a quiz on almost every Friday, consisting of problems that are *almost identical* to homework problems. Each quiz will be 10 points and two lowest scores will be dropped. If needed, the total quiz score will be converted to an 80 point scale at the end of semester.

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| Grade Scale: | 3 hour exams | 300 points (100 points each) |
| | Quizzes | 80 points |
| | Homework | 70 points |
| | Final | 200 points |
| ----- | | |
| | Total | 650 points |

A: 585 - 650, B: 520 - 584, C: 455 - 519, D: 357 - 454, F: 0 - 356

February 28 is the last day to withdraw from a class with a grade of W.

Attendance and Pop-up Quizzes: Attendance is required and expected. Students are responsible for all material covered in class and all announcements made. An undetermined number of pop-up quizzes may be given for extra points. Such a quiz will consist of one problem, discussed during the same class. *It will count as absent if you are not present when the attendance is checked. Attendance can be used for bonus points at the end.* If you have no absence, you will get 10 bonus points and for each additional absence, you will get 3 points less. For example, if you miss 4 classes in total, you will get 10 minus 12, resulting -2 points and if you miss 5 classes, you will get -5 points. These absences exclude absences due to official university activities if approved by the instructor in advance or well-documented illness.

Make-up: There will be no make-up quiz. In general, make-up exams will *not* be given *after* the scheduled exam date. There will be no make-up final except when a conflict with other finals occurs. If a conflict occurs to you, please inform the instructor at least two weeks in advance. Make-up hour exams will be granted for official university activities if the student notifies the instructor at least a week in advance and for well-documented illness.

Classroom Behavior: You are expected not to disturb your classmate's learning. No phone or computer use during class without instructor's permission.

Also, please carefully review the following information at <https://www.westga.edu/UWGSyllabusPolicies/> or <https://www.westga.edu/administration/vpaa/common-language-course-syllabi.php>. It contains important material pertaining to your rights and responsibilities in this class. Because these statements are updated as federal, state, university, and accreditation standards change, you should review the information each semester.