

SYLLABUS: MATH 115B, LINEAR ALGEBRA

SPRING 2019

Time and location.

Lecture: MWF 1:00pm – 1:50pm, MS 5127

Discussion section: Th 1:00pm – 1:50pm, GEOLOGY 4645

Course webpage: <http://www.math.ucla.edu/~chernikov/teaching/19S-MATH115B/>

Instructor.

Artem Chernikov

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Office: MS 5372

Office hours: MW 3:30pm – 5:00pm

TA.

Riley Thornton

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Office: MS 3975

Office hours: TBA

Course description.

Prerequisites: 115A.

Textbook: S. Friedberg, et al, Linear Algebra, Custom UCLA 4th Ed., Prentice Hall.

Math 115B is a course on fundamentals of linear algebra. It continues Math 115A and covers further topics, with the emphasis on proof techniques. Successful students emerge from the experience not only with a better understanding of linear algebra, but also with a higher level of mathematical maturity, better equipped to deal with abstract concepts. Key topics include: linear transformations, conjugate spaces, duality; theory of a single linear transformation, Jordan normal form; bilinear forms, quadratic forms; Euclidean and unitary spaces, symmetric skew and orthogonal linear transformations, polar decomposition.

Homework.

Weekly problem sets will be *assigned each Friday* and will be *due at the end of the lecture the following Friday*. Each problem set will be handed out and posted on the course webpage. Graded homework will be returned to you in section meetings.

There will be *no make up homework*, and *no late homework* will be accepted. In the case that you cannot turn the homework in after the lecture, you have to get your homework to me early or you will not receive credit. *Do not submit homework by e-mail.*

Each homework will consist of problems of varying difficulty, some of these problems will be from the textbook. Only a chosen portion of the problems will be graded, and an additional score will be assigned for completeness. For the computation of your final grade, *one lowest homework score will be dropped.*

Some of the problems for the exams may be taken directly from the homework, so it is in your interest to do homework on a regular basis.

Exams.

There will be two in-class midterm exams and a final exam (the dates of the midterms and the location are to be confirmed, see the course webpage). No electronic device, textbook or other material is allowed during any exam, midterm or final, unless explicitly stated otherwise.

Midterm 1: Monday, April 22

Midterm 2: Monday, May 20

Final exam: Tuesday, June 11, 11:30am - 2:30pm

There will be *no make-up exams* (see the grading rules section). According to the university policy, ***a student who has an undocumented absence from the final exam will be given a failing grade in the course.*** It is your responsibility to make sure that you have no exam scheduling conflicts.

Grading.

There will be two grading options for each student.

| | Option 1 | Option 2 |
|-----------------------|----------|----------|
| Homework | 15% | 15% |
| Lowest Midterm Score | 20% | 0% |
| Highest Midterm Score | 20% | 30% |
| Final Exam Score | 45% | 55% |

Your final class score will be computed as the *maximum of the two options*. Letter grades will be assigned on a curve.

All grades will be available for viewing on the *Gradebook* website.

Grading complaints.

If you believe a problem on a homework assignment or an exam has been graded incorrectly, or that your score was not correctly recorded, you must bring this to the attention of the instructor *within 14 calendar days* of the due date of the assignment in question, or the date of the exam, and before the date of the final exam. Grading complaints not initiated within this period of time will not be considered.

The homework assignments in this course are graded by readers, but there is no reason to contact them or TA — all grading disputes are handled by the instructor.

Students with disabilities.

Students with disabilities, please consult the Center for Accessible Education as soon as possible, so that they can contact me to make arrangements.