

Math 2890 011, Summer 02: Course outline

Text, syllabus, exams

Linear algebra, the study of systems of linear equations, is by far the most widely applied mathematics. We represent linear systems using *matrices*, whose algebra will lay the foundations for myriad applications. Specifically we will look at three critically important matrix methods and their associated matrix factorizations: Gaussian elimination (LU factorization); eigenvalues and eigenvectors (diagonalization); and the Gram-Schmidt algorithm (QR factorization).

Our text is *Linear Algebra and Its Application*, 2nd edition, by David Lay. We will cover Linear Equations and Linear Algebra (1.1–1.8), Matrix Algebra (2.1–2.5), Determinants (3.1–3.2), Vector Spaces (4.1–4.7), Eigenvectors and Eigenvalues (5.1–5.5), Orthogonality and Least Squares (6.1–6.5). We will have 4 exams, each worth 100 points. The questions for the exam will be taken directly from the homework assignments and quiz problems. Altho I will change the numbers and algebraic expressions in those question, I will not change the questions themselves.

<u>Date</u>	<u>Sections</u>
Tue, 28 May	1.1–1.8
Thu, 6 June	2.1–2.5, 3.1–3.2
Tue, 18 June	4.1–4.7
Thu, 27 June	5.1–5.5, 6.1–6.5

Homework

Most days I will post a homework assignment on the web. The homework assignment will be taken from problems in the text. We will begin work on the problems in class and they will be due the following class. I will grade 1 of these problems, chosen at random. Thus each homework assignment is worth 1 point.

To receive credit on these problems you must do more than give the right answer, you must show sufficient justification. If you do not show your work then you will get 0 credit. You must write complete sentences. Above all you must be neat. When you turn in your homework fold your papers lengthwise and write on the **outside** your **name** and **student number**, the **assignment number** and **due date**, and finally **Math 2890 Summer 02**.

Grades, attendance

Your grades will be based on the classwide distribution of total points earned. I will post a histogram of the class scores. If you want me to post your individual scores on the web, disguised under a nickname, put your name, email address, and nickname on a 3×5 card.

Experience shows that students with poor attendance earn poor grades — usually they fail. You must make every effort to attend every class. I do not give make-up quizzes nor accept late homework under any circumstances. If you miss a class then you miss the 2 points for the quiz or assignment that day. If you only miss once or twice, for a legitimate documented reason such as illness or death in the family, then the missed points will not affect your final grade. If you miss more often than that or if you do not have a legitimate reason for your absence then your final grade will almost certainly suffer.