

Linear Algebra Quiz 1- May 21st in Tutorial

The above topics will be covered in the Linear Algebra quiz that will be given in the second week of classes. The format of the quiz will be multiple choice. Linear Algebra is an important subject to know for multivariable calculus, and so while it is prerequisite knowledge for the course, the first quiz will focus on it to ensure everyone has a sufficient handle on the material. Note that this quiz does not cover all the Linear Algebra used in this course, only those enumerated below. For a complete list of the Linear Algebra used, please consult the document `LinearAlgebraUsedInFolland.pdf` found in the Syllabus section.

To prepare for this quiz please refer to the material in section 1.1 of Folland, your Linear Algebra textbook, and the several readings/notes on Linear Algebra, Norms, and dot products posted on Blackboard. A list of practice Linear Algebra problems has been supplied in the Quizzes folder.

The quiz will cover the following topics:

1. Algebra of vectors in \mathbb{R}^n
2. Algebra of dot product and norm
3. Parallel and perpendicular vectors
4. Equations of lines and planes in \mathbb{R}^3
5. dot product and projection
6. norm of a vector and Algebra and properties of norm (two versions of norm presented in inequality 1.3)
7. Cauchy-Schwarz inequality and (two versions of) triangle inequalities
8. Cross product, its Algebraic properties and interpretations
9. determinants

Please note that missing from this list is the central topic of solving a linear system $Ax=b$ via, say, row reductions. While this topic won't be on the quiz, it is taught in any Linear Algebra course and you should ensure you are familiar with this material.