Math 311-102

Harold P. Boas
boas@tamu.edu

About the exam

The first examination is tomorrow, Thursday, June 9.

Please bring paper (or a bluebook) to the exam.

The exam covers everything on the syllabus to date.

There are 10 questions on the exam.

The types of questions include *calculation*, *application*, and *interpretation*.

Examples of calculation

Calculation with vectors: length, dot product, cross product, projection.

Calculation with matrices: sums and products, reduced matrices, inverse matrices, determinants, solving a system of equations.

Examples of application

With vectors: angles, work, area of a parallelogram (or of a triangle), volume of a parallelepiped, equations of lines and planes, intersections of lines and planes.

With matrices: writing a vector as a linear combination of other vectors, testing linear independence of vectors, solving a system by Cramer's rule.

Examples of interpretation

Is a certain set a vector space? Is a certain subset a subspace?

Is a certain function linear? one-to-one? invertible?

Does a system of equations have a unique solution? infinitely many solutions? no solutions?

What does a certain linear transformation represent geometrically?