

**Department:** Mathematics

**Course No:** MATH 227Q

**Title:** Applied Linear Algebra

**Credits:** 3

**Contact:** David Gross

**WQ:** Q

**Catalog Copy:** 227Q. Applied Linear Algebra. Either semester. Three credits. Prerequisite: MATH 116 or 121. Recommended Preparation: A grade of C- or better in MATH 116. Not open for credit to students who have passed MATH 215. Open to sophomores or higher. Systems of equations, matrices, determinants, linear transformations on vector spaces, characteristic values and vectors, from a computational point of view. The course is an introduction to the techniques of linear algebra with elementary applications.

**Course Information:**

a: The goals of the course is to give a firm and somewhat computational introduction to the concepts and techniques of linear algebra.

b: The course format typically includes two exams and a final along with other graded and nongraded work as determined by the instructor.

c: Systems of equations, matrices, determinants, linear transformations on vector spaces, characteristic values and vectors, from a computational point of view. The course is an introduction to the techniques of linear algebra with elementary applications.

**Q Criteria** : The course include mathematics at or above the basic algebra level as an integral part of the course which is used throughout the course. The course included the use of basic algebraic concepts such as: formulas and functions, linear and quadratic equations and their graphs, systems of equations, polynomials, fractional expressions, exponents, powers and roots, problem solving and word problems. The course require the student to understand and carry out actual mathematical manipulations and use them in order to draw conclusions.

**Role of Grad Students:** This course is mostly taught by faculty (regular, visisting or post-doctoral). It may also be taught by well-qualified senior graduate student assistants under minimal faculty supervision.