MATH 422: 3 s.h. Linear Algebra 2

A continuation of MATH 322. Topics include further theory of linear transformations and their matrix representations: invariant subspaces, equivalent and similar matrices, canonical forms. The vector space L (V, W). Orthogonal transformations and isometries; analysis of Euclidean motions in R3. Least squares approximation and theory of generalized inverses. Bilinear and quadratic forms and their matrix representations; applications to conic sections in R2 and quadric surfaces in R3. Complex vector spaces. Offered periodically.

Prereq: MATH 310 and C- or higher in MATH 322