1056-G1-970   **Mohammad Khadivi*** (`mkhadivi@hotmail.com`), M.R.Khadivi, Professor of Mathematics, Dept. of Math., JSU, Jackson, MS 39217. *Inclusion of new applications in a Linear Algebra course, without compromising the coverage of the traditional topics.*

Linear algebra plays a pivotal - in many cases, indispensable-role in understanding and solving many real world problems. One can use the well known fact that any mxn matrix with entries from any given field , not necessarily the field of real number, is equivalent to a row reduced echelon form in order to solve AX=b. Given the aforementioned fact and with the aid of mathematical software we present several cryptosystems as application of linear algebra that could be embedded in topics for this course without compromising the coverage of the traditional topics. (Received September 19, 2009)