

# MAT1302 Test 1 - Review

## Topics 1.1—1.6

- Be able to construct the coefficient matrix and the augmented matrix
- Be able to row reduce a matrix to row echelon form and reduced row echelon form
- Be able to solve any linear system using row-reduction
- Be able to identify if a linear system has none, one or infinitely many solutions
- Use row-reductions to determine if a system of equations is consistent or inconsistent
- Be able to identify if a matrix is in row-echelon form
- Be able to tell how many pivot positions and pivot columns
- Be able to identify basic variables and free variables in a system
- Be able to do vector addition and scalar multiplication
- Be able to do linear combination and span of vectors
- Be able to switch among linear system, vector equation, matrix equation, augmented matrix
- Be able to express solutions of a system as parametric vector form. Geometric applications of vector form.
- Be able to determine when a homogeneous system has non-trivial solution, when only the trivial solution
- Be able to construct and solve linear system for Network Flow, Linear Models.