Topics that need to be reviewed before starting the course MATH 254

1) The concept of limits.
   i. Evaluate the limit at real number or at infinity for a function.
   ii. Properties of Limit and Sandwich Theorem.
   iii. Indeterminate form and L'Hopital's rule.
2) Sequences and Series: To be covered in the Tutorial
   i. Definition of a Sequence and a Series.
   ii. Limit if a sequence and a series.
   iii. Taylor polynomials and series.
3) Differentiability, the derivative of a function (polynomials, cos(x), sin(x), tan(x), ln(x), e^x, a^x, f/g ,$f \times g$, $f \pm g$, $(f(x))^a$, $f(g(x))$….).
4) Integration, the properties of integration and Weighted Mean Value Theorem for integrals (Theorem 1.13).
5) Maximum and Minimum: To be covered in the Tutorial
   i. Definition of Maximum and Minimum of a function.
   ii. Finding $\max f(x)$, $\min f(x)$ and $\max |f(x)|$, $\min |f(x)|$ on $\mathbb{R}$ and on closed interval.
   iii. Maximum and Minimum of increasing and decreasing functions.
   iv. Intermediate value Theorem.
6) Linear System
   i. Solving linear system using Gaussian elimination.
   ii. Evaluating the product and sum of matrices.
   iii. Computing the determinant of a matrix.
   iv. Computing the inverse of a matrix.