**Foundations of Mathematics and Pre – Calculus 10**

**Course Outline**

**2010 – 2011**

**Ms. Christa Millions**

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| **Chapter** | **Outcomes** | **Time Line**(Approximate) |
| Chapter 1Measurement | FP10.3 Demonstrate understanding of SI and imperial units of measurement including:* linear measurement
* surface area of spheres, and right cones, cylinders, prisms, and pyramids
* volume of spheres, and right cones, cylinders, prisms, and pyramids
* relationships between and within measurement systems.
 | 11 |
| Chapter 2Trigonometry | FP10.4 Develop and apply the primary trigonometric ratios (sine, cosine, tangent) to solve problems that involve right triangles.  | 13 |
| Chapter 3Factors and Products | FP10.1 Demonstrate understanding of factors of whole numbers by determining the: * prime factors
* greatest common factor
* least common multiple
* principal square root
* cube root.

FP10. 5 Demonstrate understanding of the multiplication and factoring of polynomial expressions (concretely, pictorially, and symbolically) including: * multiplying of monomials, binomials, and trinomials
* common factors
* trinomial factoring
* relating multiplication and factoring of polynomials.
 | 12 |
| Chapter 4Roots and Powers | FP10.2 Demonstrate understanding of irrational numbers in both radical (including mixed radical) and exponent forms through:* representing
* identifying
* simplifying
* ordering
* relating to rational numbers
* applying exponent laws.
 | 12 |
| Chapter 5Relations and Functions | FP10.6 Expand and apply understanding of relations and functions including:* relating data, graphs, and situations
* analyzing and interpreting
* distinguishing between relations and functions.

FP10.9 Demonstrate understanding of the writing and application of equations of linear relations, given:* a graph of a relation
* a point that satisfies a relation and the slope of the relation
* two distinct points that satisfy a relation
* a point that satisfies the relation and the equation of a line parallel or perpendicular to the relation.
 | 13 |
| Chapter 6Linear Functions | FP10.7 Demonstrate, with and without the use of technology, understanding of slope (concretely, pictorially, and symbolically) with respect to:* line segments and lines
* rate of change
* ratio of rise to run
* parallel lines
* perpendicular lines.

FP10.8 Demonstrate understanding of linear relations including: * representing in words, ordered pairs, tables of values, graphs, function notation, and equations
* determining characteristics including intercepts, slope, domain, and range
* relating different equation forms to each other and to graphs.
 | 12 |
| Chapter 7Systems of Linear Equations | FP10.10 Solve problems that involve systems of linear equations in two variables, graphically and algebraically.  | 10 |
|  | Final Review | 3 |