Lawrence Humanities Leadership and Development
70 -71 North Parish Rd., Lawrence, Mass. 01840
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Course: Algebra 2   **Academic Year : 2010 - 2011**
Teacher Name: Mr. Tanaka   **Room Number: 406**
Grade Level(s): 11-12   **Number of Credits: 5 credits**

Pre-requisite Courses: **Algebra 1**

Course Description

   In Algebra 2, students should encounter new classes of functions and new ways of analyzing data. They should begin to understand new aspects of mathematical form and structure, such as that all quadratic functions share certain properties, as do all functions of other classes—linear, polynomial, or exponential. Throughout this year, they will develop a deeper understanding of the fundamental mathematical concepts of function and relation, invariance, and transformation.
   Students will build on their prior knowledge, learning more-varied and more-sophisticated problem-solving techniques. As the year passes, they should increase their abilities to visualize, describe, and analyze situations in mathematical terms. They will learn to use a wide range of explicitly and recursively defined functions to model the world around them. Moreover, their understanding of the properties of those functions will give them insights into the phenomena being modeled.
   They will practice making and interpreting oral and written claims so that they can communicate effectively while working with others and can convey the results of their work with clarity and power. They will continue to develop facility with such technological tools as spreadsheets, data-gathering devices, and graphing utilities that enable them to solve problems that would require large amounts of computational time if done by hand.

This passage is a modification of the passage from the NCTM curriculum standards

Textbook(s) and/or required materials/supplies

Course requirements: students are required to have a calculator, a notebook and a pencil (use for math only).

Grading
- Test and quizzes: 40%
- Homework assignments/ Notebook-Journal: 30%
- Lab/Project: 20%
- Group work/ Class work/ Class Participate; 10%

Teacher Availability / Other course specific information	Classroom Conduct Expectations
	Students are expected to attend daily, take notes, participate during the class as well as in the assigned group and finish all assignments on time. All of ideas, strategies or attempts which use to figure out the solution of the problem should be written In the student's journal. All of corrected assignments and journals are used to review before the test or quiz. Students must take all tests and quizzes.

Content:
This course emphasizes abstraction and critical thinking in mathematics. Students will master the essential concepts of algebra as it is used to generalize problem-solving situations and gain an appreciation and understanding of its historical roots.
Five main topics will be discussed:
1. Solving varieties of equations and inequalities
2. Simplifying and manipulating different algebraic expressions.
3. Analyzing advance functions and study how they model the real world phenomena.
4. Recognizing various number patterns and generalizing the pattern into a formula
5. Organizing data in form of a matrix and learning how the operations of matrices are applied in the world of animation.