**WINDSOR LOCKS HIGH SCHOOL**

Mathematics

**COURSE SYLLABUS**

Course #: 430 Title: Algebra II Levels: A & H Credit: 1

Prerequisites: credits in Algebra I, Geometry

AND (for Honors) - minimum grade of 80 in Honors Geometry

OR minimum grade of 90 in Academic Algebra 1 and Academic Geometry

OR minimum RIT score of 250 on MAP

Textbooks: *Algebra 2:* by Larson, Kanold & Stiff; McDougall-Littell (2008)

**Course Objectives (based on Common Core State Standards for Mathematics)**

Students will be able to:

* ***See structure*** *in* *algebraic expressions and* ***write expressions*** *in equivalent forms to solve problems*
* *Perform* ***arithmetic*** *with* ***polynomials*** *and* ***rational expressions***
* ***Understand*** *the relationship between* ***zeroes and factors*** *of polynomials*
* ***Create equations*** *that describe numbers or relationships*
* ***Solve*** *equations & inequalities* ***in one variable*** *and* ***solve systems*** *of equations*
* ***Represent*** *and* ***solve*** *equations and inequalities* ***graphically***
* ***Understand*** *solving equations as a* ***process of reasoning*** *and be able to* ***explain the reasoning***
* ***Understand*** *the* ***concept of a function*** *and be able to* ***use function notation***
* ***Interpret functions*** *that arise in applications in terms of the context*
* ***Analyze functions*** *using different representations*
* ***Build functions*** *that model a relationship between two quantities*
* ***Construct and compare*** *linear, quadratic and exponential models and solve problems*
* ***Interpret expressions for functions*** *in terms of the situation they model*

**Course content and structure (based on Connecticut Department of Education recommendations):**

* Review of Linear Systems – September (2 weeks)
  + Quadratic Functions – September – October (4 weeks)
  + Functions & Inverse Functions – October - November (5 weeks)
  + Polynomial Functions – December - January (5 weeks)
  + Rational Functions – January - February (5 weeks)
  + Trigonometric Functions – March - April (5 weeks)
  + Logarithmic & Exponential Functions – April - May (5 weeks)
  + Inferential Statistics – May - June (5 weeks)

**Assessments**:

* + Written Solutions to Homework & Problem Sets (4 to 5 days a week)
  + Tests & Quizzes (about once every 6 -10 class periods)
  + Group and Individual Problem Presentations (daily)
  + Performance Tasks (one to two per unit)