Course Title:	**Algebra 1B (MVS**	
Michigan Common Core Standards, Mathematical Practice		
Unit 6 Big Idea:	**Exponents and Polynomials**	
Essential Questions	**1. How do we work with polynomials and their terms with differing exponents?** **2. What is a scientific notation?** **3. How does one classify polynomials?** **4. What is FOIL and how is it used?**	
Standards	**Assignment**	**Description**
N.RN.1, N.RN.2, MP1, MP2, MP6	6.1	Integer Exponents
N.RN.2, MP1, MP2, MP4, MP6	6.2	Powers of 10 and Scientific Notation
N.RN.2, MP1, MP2, MP6	6.3	Multiplication of Properties of exponents
N.RN.2, A.REI.7, MP1, MP2, MP6, PM8	6.4	Division Properties of Exponents
A.SSE.1, A.SSE.1.a, ASSE.1.b, MP1, MP2, MP6, MP8	6.5	Polynomials
A.APR.1, MP1, MP2, MP6	6.6	Adding and Subtracting Polynomials
A.APR.1, MP1, MP2, MP6	6.7	Multiplying Polynomials
A.APR.1, MP1,MP2,MP6	6.8	Special Products of Binomials
Unit 7 Big Idea	**Factoring Polynomials**	
Essential Questions	**1. What are the different methods of factoring polynomials?** **2. What is a prime factorization?** **3. What is a perfect square?**	
Standards	**Assignment**	**Description**
A.SSE.2, A.SSE.3.a, MP1, MP2, MP6, MP7	7.1	Factors and GCF
A.SSE.2, MP1, MP2, MP6, MP7	7.2	Factor by GCF
A.SSE.2, MP1, MP2, MP7, MP8	7.3	Factoring by $x^2 + bx + c$
A.SSE.2, MP1, MP2, MP6, MP7	7.4	Factoring $ax^2 + bx + c$
A.SSE.2, MP1, MP2, MP6	7.5	Factoring Special Products

A.SSE.2, MP1, MP2, MP6, MP7	7.6	Choose a Factoring Method
Unit 8 Big Idea	**Quadratic Functions and Equations**	
Essential Questions	**1. What are the characteristics of quadratic functions, and what are the different methods for solving quadratic equations?** **2. What defines whether a quadratic equation has a maximum or a minimum?** **3. What is the discriminant?** **4. What are complex numbers?**	
Standards	**Assignment**	**Description**
F.IF.7, A.REI.10, MP1, MP2, MP4, MP5, MP6	8.1	Identifying Quadratic Functions
F.IF.7, F.IF.7.a, F.IF.7.b, F.IF.7.c, F.IF.8, MP1, MP2, MP4, MP6	8.2	Characteristics of Quadratic Functions
F.IF.7.a, F.IF.8, F.IF.8.a, MP1, MP2, MP5, MP6	8.3	Graphing a Quadratic Equation
F.BF.3, F.IF.7, MP1, MP2, MP4, MP6	8.4	Transforming Quadratic Equations
A.REI.11, MP1, MP2, MP5, MP6	8.5	Solving Quadratic Equations by Graphing
A.REI.4, A.REI.4.a, A.REI.4.b, MP1, MP2, MP4, MP5, MP6	8.6	Solving Quadratic Equations by Factoring
A.CED.3. A.REI.4. A.REI.4.a, MP1, MP2, MP4, MP6	8.7	Solving Quadratic Equations by using Square Roots
A.REI.4, A.REI.4.a, A.REI.4.b, MP1, MP2, MP4, MP6,MP7	8.8	Completing the Square
A.REI.4, A.REI.4.a, A.REI.4.b, MP1, MP2, MP6, MP7	8.9	The Quadratic Formula and the Discriminant
A.REI.4, A.REI.4.b, A.REI.11, MP1, MP2, MP4, MP6, MP7	8.10	Complex Numbers and Roots
A.CED.1, F.IF.8, F.If.8.a, MP1, MP2, MP4, MP6	8.11	Quadratic Inequalities

Unit 9 Big Idea	**Exponential Functions**	
Essential Questions	1. **What is the relationship between exponential and logarithmic functions, and how are these functions used in the world?** 2. **What is exponential growth and decay?** 3. **What is a radicand?** 4. **What algebraic functions have to do with a roller coaster?**	
Standards	**Assignment**	**Description**
F.LE.1, F.LE.1.a, F.LE.1.b, F.LE.1.c, MP1, MP2, MP4, MP5, MP6	9.1	Exponential Functions
F.LE.1, F.LE.1.a, F.LE.1.b, MP1, MP2, MP4, MP6, MP7	9.2	Exponential Growth and Decay
F.IF.7, F.IF.7e, F.LE.4, MP1, MP2, MP6, MP8	9.3	Logarithmic Functions
A.CED.1, F.LE.1, F.LE.1.a, MP1, MP2, MP5, MP6	9.4	Square Root Functions
A.REI.2, N.RN.2, MP1, MP2, MP6, MP7	9.5	Radical Expressions
A.REI.2, N.RN.2, MP1, MP2, MP6, MP7	9.6	Adding and Subtracting Radical Expressions
A.REI.2, N.RN.2, MP1, MP2, MP6	9.7	Multiplying and Dividing Radical Expressions
A.CED.1, A.REI.2, N.RN.2, MP1, MP2, MP6	9.8	Solving Radical Equations
A.APR.1, A.APR.3, MP1, MP2, PM4, MP6, MP7	9.9	Polynomial Functions