Mathematics Department

Scope and Sequence

Algebra 2



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| **Description:** | Students review and extend algebraic skills in handling such things as real numbers, first and higher degree polynomial equations, factoring, rational functions, functional relationships, variations, exponents, systems of equations for linear and quadratic equations, matrices, conic sections, sequences and series, binomial theorem, probability and statistics. This class will help students gain a deeper understanding of fundamental concepts and develop multiple strategies for analyzing complex situations. |
| **Book:** | Carter, John; Cuevas, Gilbert; Day, Roger; and Malloy, Carol. *Algebra 2*, Glencoe, McGraw-Hill Education, (ISBN: 9780076639908), 2014, print |
| **Prerequisites:** | * Completion of Algebra I and Geometry with excellent grades * Teacher recommendation |
| **Course Objectives:** | Upon successful completion of this course students should exhibit mastery of certain knowledge and basic skills. These skills include, but are not limited to:   * Utilize essential algebraic concepts to perform calculations on polynomial expressions. * Solve and graph linear equations/inequalities and systems of linear equations/inequalities. * Solve, graph, and interpret the solutions of quadric functions. * Manipulate rational expressions, solve rational equations, and graph rational functions. * Solve logarithmic and exponential equations. * Perform operations and matrices |
| **Course Length:** | This is a three trimester class. |

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Algebra 2



**Course Outline:**

* **Trimester 1**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Unit 1** | **Unit 2** | | **Unit 3** | **Unit 4** | |
| **Equations and Inequalities** | **Linear Relations and Functions** | | **Systems of Equations and Inequalities** | **Quadratic Functions and Relations** | |
| 11 Days | 14 Days | | 16 Days | 14 Days | |
|  |  | |  |  | |
| HS.A-SSE  HS.A-CED | HS.F-IF  HS.F-BF | HS.A-CED  HS.A-SSE | HS.A-CED  HS.A-REI | HS.A-SSE  HS.A-CED  HS.A-REI | HS.N-CN  HS.F-IF  HS.F-BF |

* **Trimester 2**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Unit 5** | **Unit 6** | | **Unit 7** | | **Unit 8** | |
| **Polynomials and Polynomial Functions** | **Inverses and Radical Functions and Relations** | | **Exponential and Logarithmic Functions and Relations** | | **Rational Functions and Relations** | |
| 14 Days | 15 Days | | 17 Days | | 14 Days | |
|  |  | |  | |  | |
| HS.A-APR HS.A-CED  HS.A-REI | HS.N-CN  HS.F-IF | HS.F-IF  HS.F.BF | HS.F-IF  HS.F-LE  HS.F-BF | HS.A.CED  HS.A.REI  HS.A.SSE | HS.A.APR  HS.A.CED  HS.A.REI | HS.F.BF  HS.F.IF |

* **Trimester 3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Unit 9** | **Unit 10** | | **Unit 11** | |
| **Conic Sections** | **Sequences and Series** | | **Statistics and Probability** | |
| 18 Days | 13 Days | | 16 Days | |
|  |  | |  | |
| HS.F.IF  HS.A-CED  HS.A-REI  HS.A.SSE | HS.F.IF  HS.A.CED | HS.A.SSE  HS.A.APR | HS.S-ID HS.S-IC | HS.S.MD |

**Grades:**

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| --- | --- |
| Grades are calculated based on the following weighting:  Tests and Quizzes: 80%  Assignments: 20% | Trimester Grades are based on the Madison High School grade scale shown below:  A 94-100% C 73-76%  A- 90-93% C- 70-72%  B+ 87-89% D+ 67-69%  B 83-86% D 63-66%  B- 80-82% D- 60-62%  C+ 77-79% F Below 60% |