

Algebra 2 CP

Course Compendium

UNITS OF STUDY*

Unit 1- *Quadratic Equations, Functions & Systems*

Unit 2- *Polynomial Equations & Functions*

Unit 3- *Exponents, Roots & Radicals*

Unit 4- *Logarithms & Applications of Exponential Functions*

Unit 5- *Rational Equations & Functions*

Unit 6- *Trigonometric Ratios & Functions*

Unit 7- *Sequences and Series*

Unit 8 - *Statistics*

INTERDISCIPLINARY CONNECTIONS

NJSLS Companion Standards Grades 9-12 (Reading & Writing in Science & Technical Subjects)

RST.9-10.7. Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

RST.11-12.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

21st Century Life and Careers

CRP2. Apply appropriate academic and technical skills.

CRP4. Communicate clearly and effectively and with reason.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity.

CRP12. Work productively in teams while using cultural global competence.

9.3.ST.2 Use technology to acquire, manipulate, analyze and report data.

ALGEBRA 2 CP Credits: 5 Prerequisite: Algebra 1 CP and Geometry CP Or Honors Grades: 10, 11, 12

This course is intended to build upon student work with linear, quadratic, and exponential functions. Students extend their repertoire of functions to include polynomial, rational, and radical functions. Students work closely with the expressions that define the functions, and continue to expand and hone their abilities to model situations and to solve equations, including solving quadratic equations over the set of complex numbers and solving exponential equations using the properties of logarithms. Through the Mathematical Practice Standards students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

**See individual units for Pacing Guide, NJSLS Standards, Transfer Skills, Enduring Understandings, Essential Questions, Learning Objectives, Key Vocabulary, Skills, Resources, & Assessments*

9.3.ST.5 Demonstrate an understanding of the breadth of career opportunities and means to those opportunities in each of the Science, Technology, Engineering & Mathematics Career Pathways.

9.3.ST.6 Demonstrate technical skills needed in a chosen STEM field.

9.3.ST-SM.4 Apply critical thinking skills to review information, explain statistical analysis, and to translate, interpret and summarize research and statistical data.

Technology

8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

A. Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.

8.1.12.A.CS1 Understand and use technology systems.

8.1.12.A.CS2 Select and use applications effectively and productively.

MODIFICATIONS / ACCOMMODATIONS

GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS		
English Language Learners	Students Receiving Special Education Services	Advanced Learners
<ul style="list-style-type: none"> - Personal glossary - Extended time - Simplified / verbal instructions - Frequent breaks <p>WIDA Can Do Descriptors for Grade 9-12 WIDA Essential Actions Handbook FABRIC Paradigm Wall Township ESL Grading Protocol</p> <p>Use WIDA Can Do Descriptors in coordination with Student Language Portraits (SLPs).</p>	<ul style="list-style-type: none"> - Small group/One to one - Additional time - Review of directions - Student restates information - Space for movement or breaks - Extra visual and verbal cues and prompts - Preferential seating - Follow a routine/schedule - Rest breaks - Verbal and visual cues regarding directions and staying on task - Checklists - Immediate feedback <p>Students receiving Special Education programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP) due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, the instruction is differentiated based upon the student's needs. The IEP acts as a supplemental curriculum guide inclusive of instructional strategies that support each learner.</p> <p>Considerations for Special Education Students 6-12 National Center on Universal Design for Learning - About UDL</p>	<ul style="list-style-type: none"> - Use of high level academic vocabulary/texts - Problem-based learning - Pre-assess to condense curriculum - Interest-based research - Authentic problem-solving - Homogeneous grouping opportunities <p>Knowledge and Skill Standards in Gifted Education for All Teachers Pre-K-Grade 12 Gifted Programming Standards Gifted Programming Glossary of Terms</p>
		Students with 504 Plan

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	UDL Checklist UDL Key Terms	Teachers are responsible for implementing designated services and strategies identified on a student's 504 Plan.
At Risk Learners / Differentiation Strategies		
Alternative Assessments Choice Boards Games and Tournaments Group Investigations Learning Contracts Leveled Rubrics Homogeneous Grouping Online Math Practice	Independent Research & Projects Project-Based Learning Varied Supplemental Activities Tiered Activities/Assignments Graphic Organizers Choice of Activities Mini-Workshops to Reteach or Extend Think-Pair-Share by readiness Use of Collaboration of Various Activities	Jigsaw Exploration by Interest Flexible Grouping Goal-Setting with Students Homework Options Open-Ended Activities Varied Product Choices Stations/Centers Work Alone/Together

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