Pascack Valley Regional High School District Pascack Hills High School, Montvale, New Jersey Pascack Valley High School, Hillsdale, New Jersey **Course Name:** College Algebra Born On: August, 2017 Previous Revision: August, 2020 Current Revision: August, 2023 Board Approval: 8/28/23

COURSE DESCRIPTION: College Algebra

College Algebra is a half-year, 2.5 credit course that is designed to reinforce and expand on students' algebraic reasoning skills. College Algebra will cover topics that include linear, polynomial, exponential and logarithmic functions. In addition, this course will help to prepare students for the SAT/ACT exams, college placement tests (including Accuplacer), and mathematics courses they may see in college. Emphasis in this course is placed on tailoring instruction to individual student needs. 11th and 12th grade students enrolled in College Algebra and Statistics I have the option of earning college credit by registering with William Paterson University at a reduced price but at student expense. Please note that dual enrollment is not required, and that the course will have the same requirements and expectations whether or not students elect to register for college credit.

All mathematics courses in the Pascack Valley Regional High School District *are* designed to address multiple learning styles and needs, and accommodations and modifications are made for students with disabilities, multilingual students, students at risk of failure, gifted and talented students, and students with 504 plans. Students are encouraged to analyze data using tools and models to make valid and reliable claims (9.4.12.IML.3), and various technologies are integrated throughout the curriculum, including scientific calculators, graphing calculators, specialized software, and various Internet programs and subscriptions. These tools enrich the curriculum by giving students' access to additional mathematical representations, and they also help to differentiate by providing students with additional options to engage with mathematical tasks.

The Pascack Valley Regional High School Mathematics Department integrates 21st century life and career skills across its courses, with the dual goal of informing students about careers and fields of study that use mathematics (9.3.ST-5, 9.3.ST-ET.5 and 9.3.ST-SM.2), and helping students improve the quantitative, mathematical, and statistical reasoning skills they will need to be effective producers and consumers of quantitative information in their everyday lives (9.2.12.CAP.2). Mathematics courses address the New Jersey Student Learning Standards for Career Readiness, Life Literacies and Key Skills, with a particular emphasis on demonstrating the ability to reflect, analyze and use creative skills and ideas (9.4.12.CI.1), investigating new challenges and opportunities for personal growth, advancement and transition (9.4.12.CI.3), identifying problemsolving strategies used in the development of an innovative product or practice (9.4.12.CT.1), and explaining the potential benefits of collaborating to enhance critical thinking and problem solving (9.4.12.CT.2). Mathematics courses also address the New Jersey Student Learning Standards for English Language Arts Companion Standards, with a particular focus on following complex multistep procedures (RST.9-10.3/RST.11-12.3), determining the meaning of symbols, key terms, and other domain-specific words and phrases (RST.9-10.4/RST.11-12.3), and translating quantitative or technical information expressed in words into visual forms and translating information expressed visually or mathematically into words (RST.9-10.7). Similarly, the mathematics department seeks to support students by providing them with opportunities to use quantitative, statistical, and mathematical reasoning in interdisciplinary contexts, in contexts that are meaningful to students, and in contexts that attend to the contributions and perspectives of historically marginalized groups. Specifically, mathematics courses will look to incorporate, when appropriate, contributions and experiences of people from the LGBTQ+ community and individuals with disabilities, and references to issues of social and cultural relevance, including climate change.

Content/Topic:	Key Learning Items/Concepts and Pacing Guide	Observable Proficiencies and Skills:	NJSLS	Formative, Summative, Benchmark, and Alternative Assessments	Core Instructional and Supplemental Materials/ Modifications and Accommodations
Time: 4-5 Weeks (See next column for specific time frames) Content Statement: Students will be able to utilize multiple strategies to solve non-routine SAT/ACT-like problems. Enduring Understandings: Identifying the topic the question is asking about is the crucial first step in knowing which skills to use when solving SAT/ACT problems. Knowing a variety of test-taking strategies such as eliminating multiple-choice options and manipulating problems by substituting "your own" numbers can be an effective SAT/ACT problem solving strategy.	items/concepts: Use Pythagorean Theorem and knowledge of special right triangles to find the side lengths of right triangles (3-4 days) Find function values both graphically and algebraically (2 days) Solve word problems that incorporate functions (1 day) Find the domain and range of quadratic, square root, and rational functions (2-3 days) Find the slope of a line given the coordinates of two points that lie on that line; Understand the relationship between slope and parallel/perpendicular	1 Make sense of problems and persevere in solving them. 2 Reason abstractly and quantitatively. 3 Construct viable arguments and critique the reasoning of others. 4 Model with mathematics. 5 Use appropriate tools strategically. 6 Attend to precision. 7 Look for and make use of structure. 8 Look for and express regularity in repeated reasoning.	MP1. Make sense of problems and persevere in solving them MP2. Construct viable arguments and critique the reasoning of others MP3. Reason abstractly and quantitatively MP4. Model with mathematics MP5. Attend to precision MP6. Use appropriate tools strategically MP7. Look for and make use of structure MP8. Look for and express regularity in repeated reasoning NJSLS for ELA Companion Standards RST.9-10.3 RST.9-10.4 RST.9-10.7 RST.11-12.3 RST.11-12.4 NJSLS-CLKS - 21st Century Life and Careers	Students will be assessed regularly throughout this course, with a focus on both conceptual understanding and procedural fluency. Assessment tools may include the following: - quizzes (F) - tests (S) - performance tasks (F/S) - projects (S) - homework (F) - discussions (F) - journals (F) - Form A, B, or C benchmark (B) - alternative assessments (A) - Word problem Jigsaw activity (F)	Selection of primary sources Suggestion(s): Texts: SAT/ACT Practice books (on grade level); Larson PreCalculus (advanced); Deltamath (remediation, on grade level, and advanced) Resources: - Desmos - TI 83/84 Calculator - teacher-created tasks Modifications and Accommodations: Students with special needs: Teachers and support staff will attend to all modifications and accommodations listed in students' IEPs and 504s. Teachers will incorporate manipulatives, extra time, alternative assessments, scaffolding, spiraling, technology, and flexible grouping to support student learning. Multilingual students: Teachers and support staff will work to support multilingual students in their first language and in English, providing materials and/or

Tu Tu	0.412.07.1	
lines	9.4.12.CI.1	resources to support students'
(2-3 days)	9.4.12.CI.3	understanding. Students will be
	9.4.12.CT.1	given additional time, as
Solve problems using	9.4.12.CT.2	appropriate, and translation tools
knowledge of equations of		will be utilized as needed.
lines in both slope intercept	- Technology	Students at risk of school failure:
form and standard form (1-	9.4.12.IML.3	Formative and summative data will
2 days)		be used to monitor student success,
2 days)	- Career Education	and students at risk of failure will
	9.2.12.CAP.2	receive additional supports and
Solve word problems	9.3.ST.5	services, which may include parent
involving ratios,	9.3.ST-ET.5	consultation, extra help, and
proportions, and	9.3.ST-SM.2	differentiation strategies, including
percentages	,,,,,,,	small group instruction, group
(2-3 days)	NJSLS – CSDT	work, scaffolding, and spiraling.
	8.1.12.DA.1	Gifted and Talented Students:
Content-specific	8.1.12.DA.5	Students who excel in their mastery
modifications and	8.1.12.DA.6	of course standards will be further
accommodations	8.1.12.AP.1	challenged with more complex
- use multiple representations	8.2.12.ETW.2	tasks, extensions of concepts and
and technology to support	0.2.12.E1 W.2	skills, and extended problem
conceptual understanding		solving and critical thinking
- use scaffolding techniques		opportunities.
to support function		opportunities.
understanding and analysis		
understanding and analysis		
Interdisciplinary/additional		
connections		
- consider linear applications		
in science and engineering		
- utilize word problems that		
address diverse perspectives		
and experiences		

Content/Topic:	Key Learning Items/Concepts and Pacing Guide	Observable Proficiencies and Skills:	NJSLS	Formative, Summative, Benchmark, and Alternative Assessments	Core Instructional and Supplemental Materials/ Modifications and Accommodations
Unit 2 - Graphing	Key learning	Understand the concept of a	NJSLS Content	Students will be assessed	Selection of primary sources
Functions	items/concepts:	function and use function	Standards	regularly throughout this	Suggestion(s):
	Vertical Line test	notation		course, with a focus on both	Texts: SAT/ACT Practice
Time: 2 weeks	(1 day)		F-IF 1	conceptual understanding	books (on grade level); Larson
(See next column for		Build a function that models a	F-IF 2 F-BF 1a	and procedural fluency.	PreCalculus (advanced);
specific time frames)	Domain and range	relationship between two	r-Br 1a	Assessment tools may	Deltamath (remediation, on
Content Statement:	(2 days)	quantities	NJSLS SMP	include the following: - quizzes (F)	grade level, and advanced)
Students will be able	Calculate rate of change		MP1. Make sense of	- tests (S)	Resources:
to model real-life	(1 day)		problems and persevere	- performance tasks (F/S)	- Desmos
phenomena with	(Tuay)		in solving them	- projects (S)	- TI 83/84 Calculator
functions.	Europian notation (2.2		MP2. Construct viable	- homework (F)	- teacher-created tasks
Tunetions.	Function notation (2-3		arguments and critique the reasoning of others	- discussions (F)	
Enduring	days)		MP3. Reason abstractly	- journals (F)	Modifications and
Understandings:			and quantitatively	- Form A, B, or C	Accommodations:
Linear functions	Graphing using slope-		MP4. Model with	benchmark (B) - alternative assessments	Students with special needs:
have a constant rate	intercept form		mathematics MP5. Attend to precision	(A)	Teachers and support staff will attend to all modifications
of change.	(1 day)		MP6. Use appropriate	- Piecewise name project	and accommodations listed in
of change.			tools strategically	(S)	students' IEPs and 504s.
Slope represents the	Write equations in slope-		MP7. Look for and make use of structure		Teachers will incorporate
rate of change of a	intercept form		MP8. Look for and		manipulatives, extra time,
function, while the y-	(3-4 days)		express regularity in		alternative assessments,
intercept represents			repeated reasoning		scaffolding, spiraling,
the initial value.	Graphing piecewise and		NJSLS for ELA		technology, and flexible
die iiitiai vaiue.	step functions and using		Companion		grouping to support student
Piecewise functions	them to analyze real-life		Standards		learning.
are functions that	situations		Standar us		Multilingual students:
can be represented	(3-4 days)		RST.9-10.3		Teachers and support staff
by different rules			RST.9-10.4		will work to support

over different	Content-specific	RST.9-10.7	multilingual students in their
intervals.	modifications and	RST.11-12.3	first language and in English,
	accommodations	RST.11-12.4	providing materials and/or
	- use multiple representations		resources to support students'
	and technology to support	NJSLS-CLKS	understanding. Students will
	conceptual understanding	- 21st Century Life	be given additional time, as
	- use graphic organizers to	and Careers	appropriate, and translation
	support students'	9.4.12.CI.1	tools will be utilized as
	understanding of piecewise-	9.4.12.CI.3	needed.
	defined functions	9.4.12.CT.1	Students at risk of school
		9.4.12.CT.2	failure:
	Interdisciplinary/additional		Formative and summative
	connections	- Technology	data will be used to monitor
	- consider linear applications	9.4.12.IML.3	student success, and students
	in science and engineering		at risk of failure will receive
	- explore rate of change	- Career Education	additional supports and
	situations from climate	9.2.12.CAP.2	services, which may include
	change applications	9.3.ST.5	parent consultation, extra
		9.3.ST-ET.5	help, and differentiation
		9.3.ST-SM.2	strategies, including small
			group instruction, group work,
		NJSLS – CSDT	scaffolding, and spiraling.
		8.1.12.DA.1	Gifted and Talented
		8.1.12.DA.5	Students: Students who excel
		8.1.12.DA.6	in their mastery of course
		8.1.12.AP.1	standards will be further
		8.2.12.ETW.2	challenged with more
			complex tasks, extensions of
			concepts and skills, and
			extended problem solving and
			critical thinking opportunities.

Content/Topic:	Key Learning Items/Concepts and Pacing Guide	Observable Proficiencies and Skills:	NJSLS	Formative, Summative, Benchmark, and Alternative Assessments	Core Instructional and Supplemental Materials/ Modifications and Accommodations
Unit 3 – Systems Time: 3-4 weeks (See next column for specific time frames) Content Statement: Students will be able to model real-life phenomena with systems of equations and inequalities. Enduring Understandings: Systems of equations enable us to solve for two unknowns, given two equations. Systems can be solved with graphing, elimination, or substitution. Systems of inequalities can be used to determine plausible values,	Key learning items/concepts: Solve using graphing, substitution, and elimination methods (4-5 days) Write and solve systems from real-life problems (2-3 days) Solve real-life problems using linear programming (4-5 days) Use matrices to solve three-variable systems (2-3 days) Content-specific modifications and accommodations - use multiple representations and technology to support conceptual understanding - use Desmos to support students' understanding of linear programming	Solve systems of equations Represent and solve equations and inequalities graphically	NJSLS Content Standards A-REI 5 A-REI 6 A-REI 10 A-REI 11 A-REI 12 NJSLS SMP MP1. Make sense of problems and persevere in solving them MP2. Construct viable arguments and critique the reasoning of others MP3. Reason abstractly and quantitatively MP4. Model with mathematics MP5. Attend to precision MP6. Use appropriate tools strategically MP7. Look for and make use of structure MP8. Look for and express regularity in repeated reasoning NJSLS for ELA Companion Standards	Students will be assessed regularly throughout this course, with a focus on both conceptual understanding and procedural fluency. Assessment tools may include the following: - quizzes (F) - tests (S) - performance tasks (F/S) - projects (S) - homework (F) - discussions (F) - journals (F) - Form A, B, or C benchmark (B) - alternative assessments (A) - Linear programming project (S)	Selection of primary sources Suggestion(s): Texts: SAT/ACT Practice books (on grade level); Larson PreCalculus (advanced); Deltamath (remediation, on grade level, and advanced) Resources: - Desmos - TI 83/84 Calculator - teacher-created tasks Modifications and Accommodations: Students with special needs: Teachers and support staff will attend to all modifications and accommodations listed in students' IEPs and 504s. Teachers will incorporate manipulatives, extra time, alternative assessments, scaffolding, spiraling, technology, and flexible grouping to support student learning. Multilingual students: Teachers and support staff will work to support multilingual students in their first language and in
given certain	Interdisciplinary/additional		RST.9-10.3		English, providing materials

constraints.	connections	RST.9-10.4	and/or resources to support
Constraints	- consider applications in	RST.9-10.7	students' understanding. Students
	science and engineering	RST.11-12.3	will be given additional time, as
	- draw on contexts involving	RST.11-12.4	appropriate, and translation tools
	climate change and/or the		will be utilized as needed.
	experiences of diverse	NJSLS-CLKS	Students at risk of school
	populations in linear	- 21st Century Life	failure:
	programming situations	and Careers	Formative and summative data
	programming strautions	9.4.12.CI.1	will be used to monitor student
		9.4.12.CI.3	success, and students at risk of
		9.4.12.CT.1	failure will receive additional
		9.4.12.CT.2	supports and services, which may
		72.51.2	include parent consultation, extra
		- Technology	help, and differentiation
		9.4.12.IML.3	strategies, including small group
		7.1.52.2.5	instruction, group work,
		- Career Education	scaffolding, and spiraling.
		9.2.12.CAP.2	Gifted and Talented Students:
		9.3.ST.5	Students who excel in their
		9.3.ST-ET.5	mastery of course standards will
		9.3.ST-SM.2	be further challenged with more
		7 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	complex tasks, extensions of
		NJSLS – CSDT	concepts and skills, and extended
		8.1.12.DA.1	problem solving and critical
		8.1.12.DA.5	thinking opportunities.
		8.1.12.DA.6	5 11
		8.1.12.AP.1	
		8.2.12.ETW.2	

Content/Topic:	Key Learning Items/Concepts and Pacing Guide	Observable Proficiencies and Skills:	NJSLS	Formative, Summative, Benchmark, and Alternative Assessments	Core Instructional and Supplemental Materials/ Modifications and Accommodations
Unit 4 - Polynomial	Key learning	Perform arithmetic	NJSLS Content	Students will be assessed	Selection of primary sources
and Rational Functions	items/concepts:	operations on	Standards	regularly throughout this	Suggestion(s):
	Add, subtract and multiply,	polynomials		course, with a focus on both	Texts: SAT/ACT Practice
Time: 4-5 weeks	and divide polynomials		A-APR 1	conceptual understanding	books (on grade level);
(See next column for	(4-5 days)	Rewrite rational	A-APR 6	and procedural fluency.	Larson PreCalculus
specific time frames)		expressions	NJSLS SMP	Assessment tools may	(advanced); Deltamath
	Factor polynomials		NJSLS SMP	include the following:	(remediation, on grade level,
Content Statement:	(3-4 days)		MP1. Make sense of problems	- quizzes (F)	and advanced)
Students will be able			and persevere in solving	- tests (S)	D
to model real-life	Simplify, multiply, and		them	- performance tasks (F/S)	Resources:
phenomena with	divide rational expressions		MP2. Construct viable arguments and critique the	- projects (S) - homework (F)	- Desmos - TI 83/84 Calculator
polynomial functions.	(3 days)		reasoning of others	- discussions (F)	- 11 85/84 Calculator - teacher-created tasks
			MP3. Reason abstractly and	- journals (F)	- teacher-created tasks
Enduring	Add and subtract rational		quantitatively	- Form A, B, or C	Modifications and
Understandings:	expressions		MP4. Model with mathematics	benchmark (B)	Accommodations:
Certain polynomial	(4-5 days)		MP5. Attend to precision	- alternative assessments	Students with special needs:
expressions can be			MP6. Use appropriate tools	(A)	Teachers and support staff
rewritten as the	Simplify complex fractions		strategically MP7. Look for and make use	- Skills practice sets (F)	will attend to all
product of factors;	(2 days)		of structure		modifications and
multiplication undoes	(= 3.3.5)		MP8. Look for and express		accommodations listed in
this process.	Content-specific		regularity in repeated		students' IEPs and 504s.
	modifications and		reasoning		Teachers will incorporate
The zero product	accommodations		NJSLS for ELA		manipulatives, extra time,
property, when	- use multiple representations		Companion Standards		alternative assessments,
combined with the	and technology to support		F		scaffolding, spiraling,
process of factoring,	conceptual understanding		RST.9-10.3		technology, and flexible
enables one to solve	- use repetition and		RST.9-10.4		grouping to support student
polynomial equations	differentiation to support		RST.9-10.7		learning.
of degree > 1.	students' algebra skills		RST.11-12.3		Multilingual students:

Rational expressions can be simplified in much the same way as rational numbers, as long as care is paid to domain restrictions.	Interdisciplinary/additional connections - consider polynomial and rational applications in science and engineering	RST.11-12.4 NJSLS-CLKS - 21st Century Life and Careers 9.4.12.CI.1 9.4.12.CI.3 9.4.12.CT.1	Teachers and support staff will work to support multilingual students in their first language and in English, providing materials and/or resources to support students' understanding. Students will be given additional time, as
		9.4.12.CT.2 - Technology 9.4.12.IML.3 - Career Education	appropriate, and translation tools will be utilized as needed. Students at risk of school failure: Formative and summative
		9.2.12.CAP.2 9.3.ST.5 9.3.ST-ET.5 9.3.ST-SM.2 NJSLS – CSDT	data will be used to monitor student success, and students at risk of failure will receive additional supports and services, which may include parent consultation, extra
		8.1.12.DA.1 8.1.12.DA.5 8.1.12.DA.6 8.1.12.AP.1 8.2.12.ETW.2	help, and differentiation strategies, including small group instruction, group work, scaffolding, and spiraling.
			Gifted and Talented Students: Students who excel in their mastery of course standards will be further challenged with more
			complex tasks, extensions of concepts and skills, and extended problem solving and critical thinking opportunities.

Content/Topic:	Key Learning Items/Concepts and Pacing Guide	Observable Proficiencies and Skills:	NJSLS	Formative, Summative, Benchmark, and Alternative Assessments	Core Instructional and Supplemental Materials/ Modifications and Accommodations
Unit 5 - Exponential	Key learning	Analyze functions using	NJSLS Content	Students will be assessed	Selection of primary sources
and Logarithmic	items/concepts:	different representations.	Standards	regularly throughout this	Suggestion(s): Texts: SAT/ACT Practice
Functions Time: 4 weeks (See next column for specific time frames) Content Statement: Students will be able to model real-life phenomena with exponential and logarithmic functions. Enduring Understandings: Exponential functions have a multiplicative scale factor, while linear functions have	Exponential growth and decay models (2-3 days) Rewriting expressions from exponential to logarithmic and vice versa (1 day) Properties of Logs (2 days) Change of Base (1 day) Solving Exponential and Logarithmic Equations (4-5 days)	Construct and compare linear, quadratic, and exponential models and solve problems. Interpret expressions for functions in terms of the situation they model.	F-IF 7e F-IF 8b F-LE 1 F-LE 2 F-LE 4 F-LE 5 NJSLS SMP MP1. Make sense of problems and persevere in solving them MP2. Construct viable arguments and critique the reasoning of others MP3. Reason abstractly and quantitatively MP4. Model with mathematics MP5. Attend to precision MP6. Use appropriate	course, with a focus on both conceptual understanding and procedural fluency. Assessment tools may include the following: - quizzes (F) - tests (S) - performance tasks (F/S) - projects (S) - homework (F) - discussions (F) - journals (F) - Form A, B, or C benchmark (B) - alternative assessments (A) - Exponential/linear exploration (F)	Texts: SAT/ACT Practice books (on grade level); Larson PreCalculus (advanced); Deltamath (remediation, on grade level, and advanced) Resources: - Desmos - TI 83/84 Calculator - teacher-created tasks Modifications and Accommodations: Students with special needs: Teachers and support staff will attend to all modifications and accommodations listed in students' IEPs and 504s. Teachers will incorporate manipulatives, extra time,
an additive rate of change. Logarithms help us to analyze the exponent,	Content-specific modifications and accommodations - use multiple representations and technology to support		tools strategically MP7. Look for and make use of structure MP8. Look for and express regularity in repeated reasoning		alternative assessments, scaffolding, spiraling, technology, and flexible grouping to support student learning.
with a given base, that will yield a certain result.	conceptual understanding - use graphic organizers		NJSLS for ELA Companion Standards		Multilingual students: Teachers and support staff will work to support multilingual students in their first language
	Interdisciplinary/additional				88-

connections	RST.9-10.3	and in English, providing
- exponential functions will	RST.9-10.4	materials and/or resources to
be explored in context, and	RST.9-10.7	support students'
applications may include	RST.11-12.3	understanding. Students will
population growth (including	RST.11-12.4	be given additional time, as
populations of diverse		appropriate, and translation
peoples), compounding	NJSLS-CLKS	tools will be utilized as
interest, half-life, and climate	- 21st Century Life	needed.
change	and Careers	Students at risk of school
	9.4.12.CI.1	<u>failure</u> :
	9.4.12.CI.3	Formative and summative data
	9.4.12.CT.1	will be used to monitor student
	9.4.12.CT.2	success, and students at risk of
		failure will receive additional
	- Technology	supports and services, which
	9.4.12.IML.3	may include parent
		consultation, extra help, and
	- Career Education	differentiation strategies,
	9.2.12.CAP.2	including small group
	9.3.ST.5	instruction, group work,
	9.3.ST-ET.5	scaffolding, and spiraling.
	9.3.ST-SM.2	Gifted and Talented
		Students: Students who excel
	NJSLS – CSDT	in their mastery of course
	8.1.12.DA.1	standards will be further
	8.1.12.DA.5	challenged with more complex
	8.1.12.DA.6	tasks, extensions of concepts
	8.1.12.AP.1	and skills, and extended
	8.2.12.ETW.2	problem solving and critical
		thinking opportunities.

Content/Topic:	Key Learning Items/Concepts and Pacing Guide	Observable Proficiencies and Skills:	NJSLS	Formative, Summative, Benchmark, and Alternative Assessments	Core Instructional and Supplemental Materials/ Modifications and Accommodations
Unit 6 – Trigonometric Functions Time: 3-4 weeks (See next column for specific time frames) Content Statement: Students will be able to model real-life phenomena with trigonometric functions. Enduring Understandings: The Law of Sines and Cosines enables one to find missing pieces of a triangle, given other information. Sine and cosine functions represent the length of the opposite and adjacent sides of a right triangle formed by a point as it spins around the unit circle.	Key learning items/concepts: Law of Sines and Cosines (1 week) Graph trig functions (period, midline, amplitude) (2 weeks) Content-specific modifications and accommodations - use multiple representations and technology to support conceptual understanding - use the unit circle and special right triangles to support understanding of trig graphs Interdisciplinary/additional connections - connect trig functions to sinusoidal phenomena, such as temperature, daylight, or position on a Ferris Wheel	Analyze functions using different representations. Extend the domain of trigonometric functions using the unit circle. Model periodic phenomena with trigonometric functions.	F-IF 7 F-TF 1-2, 5, 8 *F-TF 3-4, 6-7 NJSLS SMP MP1. Make sense of problems and persevere in solving them MP2. Construct viable arguments and critique the reasoning of others MP3. Reason abstractly and quantitatively MP4. Model with mathematics MP5. Attend to precision MP6. Use appropriate tools strategically MP7. Look for and make use of structure MP8. Look for and express regularity in repeated reasoning NJSLS for ELA Companion Standards RST.9-10.3	Students will be assessed regularly throughout this course, with a focus on both conceptual understanding and procedural fluency. Assessment tools may include the following: - quizzes (F) - tests (S) - performance tasks (F/S) - projects (S) - homework (F) - discussions (F) - journals (F) - Form A, B, or C benchmark (B) - alternative assessments (A) - Calculate the distance task (F)	Selection of primary sources Suggestion(s): Texts: SAT/ACT Practice books (on grade level); Larson PreCalculus (advanced); Deltamath (remediation, on grade level, and advanced) Resources: - Desmos - TI 83/84 Calculator - teacher-created tasks Modifications and Accommodations: Students with special needs: Teachers and support staff will attend to all modifications and accommodations listed in students' IEPs and 504s. Teachers will incorporate manipulatives, extra time, alternative assessments, scaffolding, spiraling, technology, and flexible grouping to support student learning. Multilingual students: Teachers and support staff will work to support multilingual students in their first language and in English, providing materials and/or resources to support students' understanding. Students will be given additional time, as

RST.9-10.4 RST.9-10.7	appropriate, and translation tools will be utilized as needed.
RST.11-12.3	Students at risk of school failure:
RST.11-12.4	Formative and summative data will
182777 1277	be used to monitor student success,
NJSLS-CLKS	and students at risk of failure will
- 21st Century Life	receive additional supports and
and Careers	services, which may include parent
9.4.12.CI.1	consultation, extra help, and
9.4.12.CI.3	differentiation strategies, including
9.4.12.CT.1	small group instruction, group work,
9.4.12.CT.2	scaffolding, and spiraling.
	Gifted and Talented Students:
- Technology	Students who excel in their mastery
9.4.12.IML.3	of course standards will be further
	challenged with more complex tasks,
- Career Education	extensions of concepts and skills,
9.2.12.CAP.2	and extended problem solving and
9.3.ST.5	critical thinking opportunities.
9.3.ST-ET.5	
9.3.ST-SM.2	
NJSLS – CSDT	
8.1.12.DA.1	
8.1.12.DA.5	
8.1.12.DA.6	
8.1.12.AP.1	
8.2.12.ETW.2	