

MATHEMATICS COURSES

See math curriculum sequence table on next page

God gives us mathematics as a gift and a tool to appreciate, to interpret, and to develop His creation. God created this world with order, allowing us to recognize His logical, creative genius. As we study these patterns, we have the responsibility to use our God-given abilities to develop His world. We will consciously seek to extend the student's reasoning ability, honest interpretation, and ethical standards of God's kingdom.

302 Algebra Foundations Two Semesters Grade 9 & 10
This course will cover the following number concepts: collecting, organizing, interpreting, and analyzing data; problem solving skills; solving basic equations and inequalities; conversions and units of measure; and computational skills involving whole numbers, decimals, integers, and fractions both with and without a calculator.

301 Algebra I Two Semesters Grade 9 & 10
Algebra is designed to attract and keep students in mathematics not to weed them out. It provides an important foundation for subsequent math courses. Students will learn to describe the world around them through algebraic expressions, equations, tables and graphs. We will provide a context for the abstract language of algebra with real-life applications, made more accessible with calculators and computers. Throughout the course, there will be much review of the arithmetic operations on fractions, decimals, and integers.

313 Algebra II & 310 Advanced Algebra II Two Semesters Grades 10-11
Prerequisite: Algebra I, Geometry
This course emphasizes proficiency with algebraic expressions, especially linear and quadratic, powers and roots. Students will study logarithmic, trigonometric, polynomial, and other special functions both for their abstract properties and as tools for modeling real-world situations. An emphasis will be placed on problem solving, applications, use of technology and maintaining basic skills.

309 Geometry Foundations Two Semesters Grade 9 & 10
This course will review basic algebra concepts, such as simplifying algebraic expressions, solving equations and inequalities, graphing on the coordinate plane. It will also serve as an introduction to geometry, including angles and polygons, areas and perimeters, volumes and geometric applications, without the use of formal proof. Emphasis will be given to the many practical applications of those geometry concepts, such as a project planning the construction of a house.

306 Geometry & 307 Advanced Geometry Two Semesters Grade 9-10
Prerequisite: Algebra I
Geometry is a study of patterns. Patterns are formed by point, lines, polygons, circles and 3 dimensional figures. What are these patterns? What are the laws governing these patterns? Where do we see these patterns in our everyday world? These are some of the questions geometry asks and seeks to answer in a cooperative learning situation. Reading carefully, using today's technology and working together will be heavily emphasized and should give us a greater appreciation of the world God created.

314 Functions & Statistics Two Semesters Grades 11 & 12
Prerequisites: Algebra I & II, Geometry
Students will learn to display, describe, transform and interpret numerical information in the form of data, graphs, or equations. Statistical, graphical, and algebraic concepts are integrated through mathematical models of relationships in data sets. These models include linear, quadratic, higher order polynomial, exponential and logarithmic functions.

316 Functions, Statistics and Trigonometry Two Semesters Grades 11 & 12
Prerequisites: Algebra I & II, Geometry
FST studies statistical, graphical, and algebraic concepts. These concepts are integrated through mathematical models of relationships that include linear, quadratic, higher order polynomials, exponential, logarithmic, and trigonometric functions. Many real life situations are explored using these math models. A growing awareness of God's world as it is interpreted through mathematics continues to be developed.

MATHEMATICS COURSES CONTINUED

317 AP Statistics
12

Two Semesters

Grade 11 &

Prerequisites: Adv. Geometry 307; Adv. Algebra 310; FST, FS, or teacher permission; Math GPA 3.2

This course is a major exploration of statistics; collecting, organizing, and analyzing data. There is a great amount of classroom work done in a cooperative setting. Many hands-on tools, including a graphing calculator, are used.

318 Precalculus and Calculus

Two Semesters

Grade 12

Prerequisites: Algebra I & II, Geometry, FST

This course reviews and solidifies the Pre-Calculus concepts begun in FST and provides a complete and vigorous exposure to mathematics in preparation for college. The student should gain a complete understanding of polynomials, trigonometric, exponential, and logarithmic functions before shifting to Calculus topics such as the derivative, the integral, zeroes of functions, optimization, related rates, anti-differentiation, and the fundamental Theorem of Calculus. By early May, most students will be prepared to take the AP Calculus exam if they so choose.

SCHS Math Curriculum

South Christian's math requirement = 6 semesters. Most colleges recommend 3 years and prefer 4 years of math.

9 th Grade	10 th Grade	11 th Grade	12 th Grade
Advanced Geometry 307	Advanced Algebra 310	Functions Statistics 314	AP Statistics 317
		Func., Stats, Trig. 316	Pre Calc/Calc 318
Geometry 306 (Rarely taken by 9 th graders)	Algebra II 313	Functions Statistics 314	AP Statistics 317
Algebra 301	Geometry 306	Algebra II 313	Functions Statistics 314
Algebra Foundations 302	Geometry Foundations 309	Algebra 301 or KCTC equivalent	
			Accounting – may be taken as the Michigan Merit Curriculum's required senior math class.