

Mathematics

EXPANDED ALGEBRA AB

Grades: 9-12

Credits: 1.0 Mathematics

Prerequisite: Teacher recommendation

Repeat for Credit: No

NCAA Approved: No

In this course, students will be introduced to topics that are studied in Regular Algebra 1. The pacing will be adjusted in order to give students extra time on each topic and to give opportunities for practice with support standards.

EXPANDED ALGEBRA C

Grades: 9-12

Credits: 0.5 Mathematics

Prerequisite: Teacher Recommendation

Repeat for Credit: No

NCAA Approved: No

In this course, students will build on concepts studied in Expanded Algebra AB and will expand their studies to include topics in regular Algebra 1. The pacing will be adjusted in order to give students extra time on each topic and to give opportunities for practice with support standards.

ALGEBRA 1

Grades: 9-12

Credits: 1.0 Mathematics

Prerequisite: None

Repeat for Credit: No

NCAA Approved: Yes

Algebra 1 is the first course of a minimum of three math courses required for graduation and is the foundation for all further math courses. Algebra 1 includes the study of properties of functions, linear relations, simplifying and solving, systems and equations, two variable data, introduction to exponential functions, quadratic functions, and solving quadratic and inequalities.

GEOMETRY

Grades: 9-12

Credits: 0.5 Mathematics

Prerequisite: Algebra 1

Repeat for Credit: No

NCAA Approved: Yes

This course will focus on the use of modeling and problem solving through the study of shapes and spatial relationships. The essential learnings include: transformations, line angle relationships, triangle congruency, similarity, right triangle trigonometry, and volume.

GEOMETRY HONORS

Grades: 9-12

Credits: 0.5 Mathematics

Prerequisite: Algebra 1 and teacher recommendation

Level: Honors

Repeat for Credit: No

NCAA Approved: Yes

Geometry Honors will focus on the use of modeling and problem solving through the study of shapes and spatial relationships. The essential learnings include: transformations, line angle relationships, triangle congruency, similarity, right triangle trigonometry, and volume. Geometry Honors is taught in such a way as to allow for greater depth, faster pace, greater conceptual understanding, and higher level thinking skills. More emphasis is placed on proof, logical thinking, and synthesis of concepts.

Mathematics

PROBABILITY & STATISTICS HONORS

Grades: 9-12

Level: Honors

NCAA Approved: Yes

Credits: 0.5 Mathematics

Repeat for Credit: No

Prerequisite: Algebra 1 and teacher recommendation

This course will focus on the real life applications of probability and statistics. The essential learnings include: conditional probability, statistical inference, two-variable statistics, and one variable statistics. The course is taught in such a way as to allow for greater depth, faster pace, and higher level thinking skills. Applications and mathematical modeling are included with each topic.

TRANSITIONAL ALGEBRA

Grades: 11-12

NCAA Approved: Yes

Credits: 1.0 Mathematics

Repeat for Credit: No

Prerequisite: Algebra 1 & Probability & Statistics

The Transitional Algebra course reviews and expands on concepts taught in Algebra 1 while preparing students for success in Algebra 2. This course continues the study of functions and reinforces algebraic skills previously acquired. It helps prepare students for subsequent math course offerings and high stakes tests. It also covers some high school level geometric and measurement reasoning.

ALGEBRA 2

Grades: 9-12

NCAA Approved: Yes

Credits: 1.0 Mathematics

Repeat for Credit: No

Prerequisite: Algebra 1, Geometry, Probability & Statistics

Algebra 2 continues the study of Algebra and is a college-prep course. This course provides an in-depth study of linear functions, systems of equations, inequalities and linear programming, polynomial operations, rational exponents, radical functions, quadratic functions, quadratic equations and complex numbers, exponential and logarithmic functions, and an intro to trigonometric ratios and functions.

ALGEBRA 2 HONORS

Grades: 9-12

Level: Honors

NCAA Approved: Yes

Credits: 1.0 Mathematics

Repeat for Credit: No

Prerequisite: Algebra 1, Probability & Statistics, Geometry, and teacher recommendation

Algebra 2 Honors continues the study of Algebra, is a college-prep course, and is intended to prepare students for Pre-Calculus. The course is taught in such a way as to allow for greater depth, faster pace, and higher level thinking skills. Algebra 2 Honors provides a study of linear functions, systems of equations, inequalities and linear programming, polynomial operations, rational exponents and radical functions, quadratic functions, quadratic equations and complex numbers, exponential and logarithmic functions, and intro to trigonometric ratios and functions. Application and mathematical modeling are included with each topic.

PROBABILITY & STATISTICS

Grades: 9-12

NCAA Approved: Yes

Credits: 0.5 Mathematics

Repeat for Credit: No

Prerequisite: Algebra 1

This course will focus on the real-life applications of probability and statistics. The essential learnings include: conditional probability, statistical inference, two-variable statistics, and one-variable statistics.

Mathematics

PRE-CALCULUS

Grades: 10-12

NCAA Approved: Yes

Credits: 1.0 Mathematics

Repeat for Credit: No

Prerequisite: Algebra 2 and teacher recommendation

Other: SOU and RCC credits may be available

Pre-Calculus courses combine the study of Elementary Functions, Analytic Geometry, and Mathematical Analysis topics as preparation for calculus. Topics typically include the study of complex numbers; polynomial, logarithmic, exponential, rational and conic sections.

PRE-CALCULUS HONORS

Grades: 10-12

Level: Honors

NCAA Approved: Yes

Credits: 1.0 Mathematics

Repeat for Credit: No

Prerequisite: Algebra 2 and teacher recommendation

Other: SOU and RCC credit may be available

Pre-Calculus courses combine the study of Trigonometry, Elementary Functions, Analytic Geometry and Mathematical Analysis topics as preparation for calculus. Topics typically include the study of complex numbers; polynomial, logarithmic, exponential, rational, right trigonometric, and circular functions, and their relations, inverses and graphs: trigonometric identities and equations, solutions of right and oblique triangles, vectors, the polar coordinate system and conic sections.

AP STATISTICS

Grades: 10-12

Level: AP

NCAA Approved: Yes

Credits: 1.0 Mathematics

Repeat for Credit: No

Prerequisite: Algebra 1, a sequential algebra course, and teacher recommendation

Other: SOU credit may be available

AP Statistics closely parallels a college-level statistics course, emphasizing reading and problem solving. The learning strategies, activities, and labs emphasize real-life applications using real data. Calculators and computers will be used. Students will have the opportunity to take the AP Statistics exam. Topics include event probability, probability distributions including binomial and normal distributions, analysis of data, measures of central tendency and variability, random variables, random sampling, central limit theorem, confidence intervals, and hypothesis testing. College credit may be available through SOU.

AP CALCULUS AB

Grades: 11-12

Level: AP

NCAA Approved: Yes

Credits: 1.0 Mathematics

Repeat for Credit: No

Prerequisite: Pre-Calculus and teacher recommendation

Other: SOU credit may be available

Following the College Board's suggested curriculum designed to parallel college-level calculus courses, AP Calculus AB provides students with an understanding of the concepts of calculus and experience with its methods and applications. This course introduces calculus and includes the following topics: functions, graphs, limits, and continuity, differential calculus (including definition, application, and computation of the derivative: derivative at a point, derivative as a function and second derivatives) and integral calculus (including definite integrals and antidifferentiation).

AP CALCULUS BC

Grades: 12

Level: AP

NCAA Approved: Yes

Credits: 1.0 Mathematics


Repeat for Credit: No

Prerequisite: AP Calculus and teacher recommendation

Other: SOU credit may be available

AP Calculus BC is a year of Calculus for those students who have already successfully completed first year Calculus. It is designed to have students deepen their understanding of year one topics in differentiation and integration through additional applications and projects and learn a variety of new topics including sequences and series, Taylor and McClaurin series, and parametric, polar, and vector functions and applications. Upon completion of the course, students will be prepared to take the AP Calculus BC exam and/or earn Calculus 3 college credit through SOU.

Mathematics

	Secondary Math Course Pathways					
	Grade					
	7th	8th	9th	10th	11th	12th
Samples of Steps to Meet Graduation Requirements for Math	Math 7	Math 8	Expanded Algebra A/B	Expanded Algebra C	Transitional Algebra w/ Geometry	Algebra 2, Pathway Math Options (TBD)
				Probability & Statistics		
	Math 7	Math 8	Algebra 1	Geometry	Algebra 2 or Pathway Math Options (TBD)	AP Stats, Pre Calculus, Pathway Math Options (TBD)
				Probability & Statistics		
	Pre-Algebra	Algebra 1	Geometry Honors	Algebra 2 Honors	Pre-Calculus Honors*, Pathway Math Options (TBD)	AP Calculus or AP Stats*, Pathway Math Options (TBD)
			Probability & Statistics Honors			
Algebra 1	Geometry Honors	Algebra 2 Honors	Pre-Calculus Honors*	AP Calculus or AP Stats*, Pathway Math Options (TBD)	AP Calculus 2 or AP Stats*, Pathway Math Options (TBD)	
	Probability & Statistics Honors					
End of steps to meet graduation requirements				Meets entry requirements for Oregon Public Universities		* means the course may be offered for Dual Credit/College Credit

