Mathematics Courses

MATH R009—Basic Mathematics 3 units
3 hours lecture weekly
This course reviews basic mathematical skills and fundamental operations as applied to integers, common and decimal fractions, and percentages. Emphasis is placed on understanding of arithmetic and mathematical processes. Not applicable for degree credit. (2)

MATH R009A—Basic Mathematics I 1 unit
½ hour lecture, 1½ hours lab weekly
This course is the first of a three-course sequence equivalent to MATH R099. In this course, students master basic mathematical skills and fundamental operations as applied to whole numbers. A student receiving credit in MATH R099A, B, and/or C will not receive credit in MATH R099. Not applicable for degree credit. (1).

MATH R009B—Basic Mathematics II 1 unit
Advisory: MATH R009A
½ hour lecture, 1½ hours lab weekly
This course is the second of a three-course sequence equivalent to MATH R099. In this course, students master basic mathematical skills and fundamental operations as applied to fractions and decimals. A student receiving credit in MATH R099A, B, and/or C will not receive credit in MATH R099. Not applicable for degree credit. (1).

MATH R009C—Basic Mathematics III 1 unit
Advisory: MATH R009A and MATH R009B
½ hour lecture, 1½ hours lab weekly
This course is the third of a three-course sequence equivalent to MATH R099. In this course, students master basic mathematical skills involving ratio and proportions, percent, geometry and measurement. A student receiving credit in MATH R099A, B, and/or C will not receive credit in MATH R099. Not applicable for degree credit. (1).

MATH R010—Pre-Algebra 4 units
Prerequisites: MATH R009.
4 hours lecture weekly
This course bridges the gap between arithmetic and elementary algebra. It reviews whole numbers, fractions, mixed numbers, decimals and integers, and examines proportions, unit analysis, and percent. It also introduces algebraic expressions, solving equations, graphing straight lines and interpreting other graphs. Proper notation, word problems, and study skills will be emphasized. Not applicable for degree credit. (2)

MATH R010A—Pre-Algebra I 1 unit
Prerequisites: MATH R009 or equivalent.
½ hour lecture, 1½ hours lab weekly
This course is the first of a four-course sequence equivalent to MATH R101. This course helps bridge the gap between arithmetic and elementary algebra. It reviews whole numbers, decimals and fractions, along with using mental math. It also introduces integers, exponents, order of operations and averages. A student receiving credit in MATH R101A, B, C, and/or D will not receive credit for MATH R101. Not applicable for degree credit. (2)
MATH R010B—Pre-Algebra II 1 unit
Prerequisites: MATH R010 or equivalent.
Advisory: MATH R010A.
½ hour lecture, 1¾ hours lab weekly
This course is the second of a four-course sequence equivalent to MATH R010. This course helps bridge the gap between arithmetic and elementary algebra. It provides an introduction to algebraic concepts through evaluating algebraic expressions, solving linear equations, working with proportions and performing operations on monomials and binomials. A student receiving credit in MATH R010A, B, C, and/or D will not receive credit for MATH R010. Not applicable for degree credit. (1).

MATH R010C—Pre-Algebra III 1 unit
Prerequisites: MATH R010 or equivalent.
Advisory: MATH R010A and MATH R010B.
½ hour lecture, 1¾ hours lab weekly
This course is the third of a four-course sequence equivalent to MATH R010. This course helps bridge the gap between arithmetic and elementary algebra. It provides an introduction to graphing and analyzing linear functions. A student receiving credit in MATH R010A, B, C, and/or D will not receive credit for MATH R010. Not applicable for degree credit. (1).

MATH R010D—Pre-Algebra IV 1 unit
Prerequisites: MATH R010 or equivalent.
Advisory: MATH R010A or equivalent
½ hour lecture, 1¾ hours lab weekly
This course is the fourth of a four-course sequence equivalent to MATH R010. This course helps bridge the gap between arithmetic and elementary algebra. It examines square roots, percents and applications. A student receiving credit in MATH R010A, B, C, and/or D will not receive credit for MATH R010. Not applicable for degree credit. (1).

MATH R011—Elementary Algebra 5 units
Prerequisites: MATH R010.
5 hours lecture weekly
This is a first course in algebra. The topics include operations with real numbers, algebraic expressions, introduction to function notation, linear equations and inequalities, one and two dimensional graphing, systems of linear equations, exponents, operations on polynomials, factoring polynomials, application of the Zero Product Principle, rational expressions and equations, proportions, complex fractions and related applications. Emphasis is on the use of proper terminology and written processes. (2)

MATH R011A—Elementary Algebra I 2½ units
Prerequisites: MATH R010 or equivalent.
1½ hour lecture, 3 hours lab weekly
This course is the first in a two-course sequence equivalent to MATH R011. This course will review operations on real numbers and begin the study of elementary algebra. Topics include operations with real numbers, algebraic expressions, introduction to functions, linear equations and inequalities, one and two-dimensional graphing, systems of linear equations, and exponents. A student receiving credit in MATH R011A and/or MATH R011B will not receive credit in MATH R011. (1)

MATH R011B—Elementary Algebra II 2½ units
Prerequisites: MATH R011A.
1½ hour lecture, 3 hours lab weekly
This course is the second in a two-course sequence equivalent to MATH R011. This course will continue the study of elementary algebra. Topics include operations on polynomials, factoring polynomials, application of the Zero Product Principle, rational expressions and equations, proportions, complex fractions and related application. A student receiving credit in MATH R011A and/or MATH R011B will not receive credit in MATH R011. (1)

MATH R014—Intermediate Algebra 5 units
Prerequisites: MATH R011.
5 hours lecture weekly
This is a second course in algebra emphasizing applications of mathematics to scientific and logical problems. Students learn to analyze and interpret problems while developing inductive and deductive logic skills to apply to verbal and quantitative problems. The topics include operations with functions, variation, rational expressions and equations, compound and absolute value inequalities, systems of linear equations, an introduction to matrices and determinants, graphing linear and nonlinear functions, radical expressions and equations, complex numbers, solving equations of higher degree, exponential and logarithmic functions, conic sections, sequences and series, and the Binomial Theorem. (2)

MATH R014A—Intermediate Algebra I 3 units
Prerequisites: MATH R011 or MATH R011B.
3 hours lecture weekly
This course is the first in a two-course sequence equivalent to MATH R014. This course will emphasize applications of mathematics to scientific and logical problems. Students learn to analyze and interpret problems while developing inductive and deductive logic skills to apply to verbal and quantitative problems. The topics include operations with functions, rational expressions and equations, compound and absolute value inequalities, systems of linear equations, graphing linear and nonlinear functions, radical expressions and equations, complex numbers, and solving quadratic equations. A student receiving credit in MATH R014A and/or B will not receive credit in MATH R014. (1)

MATH R014B—Intermediate Algebra II 3 units
Prerequisites: MATH R014A.
3 hours lecture weekly
This course is the second in a two-course sequence equivalent to MATH R014. This course will emphasize applications of mathematics to scientific and logical problems. Students learn to analyze and interpret problems while developing inductive and deductive logic skills to apply to verbal and quantitative problems. The topics include exponential and logarithmic functions, conic sections, sequences and series, and the Binomial Theorem. A student receiving credit in MATH R014A and/or B will not receive credit in MATH R014. (1)

MATH R023—Geometry 3 units
Prerequisites: MATH R011 or MATH R011B.
3 hours lecture weekly
This course covers selected topics from Euclidean plane and solid geometry. Topics include lines and planes, triangles, congruence, deductive reasoning, proof, geometric inequalities, parallel and perpendicular lines, polygons, similarity, circles, constructions, and measuring areas and volumes in two- and three-dimensional shapes. (2)

MATH R098—Short Courses in Mathematics ½-10 units
Lecture and/or lab hours as required by unit formula
Short Courses in Mathematics provides courses in selected areas of mathematics to meet specific needs of the college or the community when those needs are not met by regular course offerings. The length of the course will determine the unit credit. Field trips may be required. (2)
MATH R101—Mathematics for the Liberal Arts Major 3 units
Prerequisites: MATH R014.
3 hours lecture weekly
This course gives the Liberal Arts major a better understanding of the deductive process and the nature of mathematics. Topics include sequences and series, counting theory, an introduction to probability, statistics, and mathematical inference, graphing functions and analyzing graphs of functions. The instructor may choose to include additional topics such as network theory, exponential growth and decay, voting and apportionment, or linear programming. Character and origin of various mathematics subject fields will be explored. Field trips may be required. (2)
Transfer credit: UC credit limitations — see counselor, CSU

MATH R102—Mathematics for Elementary School Teachers 4 units
Prerequisites: MATH R014.
3 hours lecture weekly, 3 hours lab weekly
This course is designed for candidates pursuing an elementary teaching credential. It focuses on the development of quantitative reasoning skills through in-depth, integrated explorations of topics in mathematics, including: the real number system and subsystems, patterns and sequences, basic set theory, logic, and mathematical induction. Emphasis is on comprehension and analysis of mathematical concepts and applications of logical reasoning. Field trips may be required.
Transfer credit: UC, CSU

MATH R105—Introductory Statistics 5 units
Prerequisites: MATH R014 or MATH R014B.
5 hours lecture weekly
This course covers descriptive and inferential statistics for students of social sciences, science, education, business, and engineering. Included are discussions of graphing and interpreting graphs, measures of the center and variation, probability, normal curves, binomial tests, hypothesis testing, correlation and regression, chi-square tests, t-tests, and analysis of variance. This course also emphasizes the analysis of large data sets using technology. (2)
Transfer credit: UC, CSU

MATH R106—Mathematics for Business Applications 5 units
Prerequisites: MATH R014 or MATH R014B.
5 hours lecture weekly
This course provides students with majors in business, economics, social, and life sciences a non-trigonometric calculus course that meets their major requirements while including applications they are most likely to encounter in the future. Topics include the study of functions, limits, linear programming, college-level algebra, differentiation and related rates, maxima and minima, integration, and differential equations. It is not recommended for mathematics or physical science majors. (2)
Transfer credit: UC, CSU

MATH R115—College Algebra 3 units
Prerequisites: MATH R014.
3 hours lecture weekly
An advanced course in algebra, this course focuses on the study of functions and their graphs, techniques of solving equations and the recognition and creation of patterns. Students will analyze and graph functions (constant, linear, quadratic, absolute value, square root, cubic, polynomial, rational, exponential, and logarithmic). Topics also include inequalities, absolute values, analytic geometry of conic sections, systems of linear and nonlinear equations and inequalities, matrices, determinants, the binomial theorem, sequences, series, and mathematical induction. This course includes problem-solving strategies with applications to many areas including business and the social, biological, and physical sciences. (2)
Transfer credit: UC, CSU

MATH R116—College Trigonometry 3 units
Prerequisites: MATH R014.
3 hours lecture weekly
This course is designed for candidates pursuing an elementary teaching credential. It focuses on the development of quantitative reasoning skills through in-depth, integrated explorations of topics in mathematics, including: the real number system and subsystems, patterns and sequences, basic set theory, logic, and mathematical induction. Emphasis is on comprehension and analysis of mathematical concepts and applications of logical reasoning. Field trips may be required. (2)
Transfer credit: UC, CSU

MATH R118—Precalculus Mathematics 5 units
Prerequisites: MATH R014.
5 hours lecture weekly
This course is designed for candidates pursuing an elementary teaching credential. It focuses on the development of quantitative reasoning skills through in-depth, integrated explorations of topics in mathematics, including: the real number system and subsystems, patterns and sequences, basic set theory, logic, and mathematical induction. Emphasis is on comprehension and analysis of mathematical concepts and applications of logical reasoning. Field trips may be required. (2)
Transfer credit: UC, CSU

MATH R120—Calculus with Analytic Geometry I 5 units
Prerequisites: MATH R118, or both MATH R115 and MATH R116.
5 hours lecture weekly
The first course in the calculus sequence, this course combines elements of analytic geometry with calculus applications. It includes the study of functions, limits, the derivative, continuity, techniques and applications of differentiation, and an introduction to the anti-derivatives and integration. (2)
Transfer credit: UC, CSU

MATH R121—Calculus with Analytic Geometry II 5 units
Prerequisites: MATH R120.
5 hours lecture weekly
As the second course in the calculus sequence, this course emphasizes integral calculus, techniques of integration, and applications of definite integrals. It also includes the study of infinite series, conic sections, and parametric equations. (2)
Transfer credit: UC, CSU

MATH R122—Calculus with Analytic Geometry III 5 units
Prerequisites: MATH R121.
5 hours lecture weekly
As the third course in the calculus sequence, this course reviews the calculus of several variables and solid analytic geometry. It includes the study of vectors and surfaces in space, partial derivatives, multiple integrals, vector valued functions, cylindrical and spherical coordinate systems, line and surface integrals, vector fields, Green’s Theorem, parametric surfaces, Jacobians, Lagrange Multipliers, Stoke’s Theorem, and the Divergence Theorem. (2)
Transfer credit: UC, CSU

(1)=Pass/No Pass Only (2)=Pass/No Pass at Student’s Option
Students without prior college credit for mathematics, documented by official college transcript, must be assessed in mathematics. Please call the Assessment Office at (805) 986-5864 for assessment times.

In addition to the Math assessment, counselors may use the student's High School grades shown on their transcript according to the flow chart to place students into Math classes. Please contact the Counseling Department at (805) 986-5816.
MATH R125—Differential Equations with Linear Algebra
Prerequisites: MATH R121.
3 hours lecture weekly
This is an introductory course in differential equations with linear algebra for mathematics, physical science, computer science, and engineering major students who have completed at least a two-course sequence in calculus. Topics include vector spaces, matrices, determinants, linear transformations, eigenvectors and canonical forms, ordinary differential equations and systems of equations, Laplace transform techniques and step and impulse functions, power series solutions and Bessel’s equation, Fourier series and introduction to partial differential equations. This course may also include opportunities to use a computer to assist in solving problems and in graphing solutions.
Transfer credit: UC, CSU

MATH R198A-Z—Advanced Short Courses
Prerequisites: MATH R014 or MATH R014B.
Lecture and/or lab hours as required by unit formula
Advanced Short Courses in Mathematics provides courses in selected areas of mathematics to meet specific needs of the college or the community when those needs are not met by regular course offerings. The length of the course will determine the unit credit. Field trips may be required. (2)
Transfer credit: CSU

MATH R199—Directed Studies in Math
1-3 units
Prerequisites: MATH R014.
Lecture and/or lab hours as required by unit formula
This transfer-level course is designed for students interested in furthering their knowledge on an independent study basis. Topics will vary, depending on the individually designed plan of study and project(s), including a weekly consultation with the instructor. Field trips may be required. Course may be taken two times. (2)
Transfer credit: CSU

MUSIC
Whether it’s the White Stripes or Mozart; the guitar or the piano; learning to play, listen to or compose music — students can experience all of it in the music department at Oxnard College.

INTRO TO GUITAR (MUS R118)
Students will learn to read music and develop the skills to compose their own original musical pieces.

CLASS PIANO (MUS R107)
Students will receive instruction in piano and guitar, learn how to read music, explore the principles of scales, chords, time signatures, musical symbols and keyboard fingering.

INTRO TO GUITAR (MUS R118)
Students will cover the fundamentals of guitar and related musicianship; basic techniques and repertoire (folk guitar) and chordal accompaniment. Students must furnish their own instruments.

MUSIC APPRECIATION I: LISTENING AND UNDERSTANDING
This course is a survey of music history with an emphasis on Western music from the Medieval period to the present day. In addition, World music, Jazz, Rock music, Broadway and other styles will be examined, albeit briefly. Special emphasis is given to understanding and enjoying the listening experience. (2)
Transfer credit: UC, CSU

MUSIC APPRECIATION II: LISTENING AND UNDERSTANDING
3 hours lecture weekly
This course starts with fundamentals of piano playing. It continues through accompaniments, studies in piano literature, to reading choral scores, improvisation and harmonization of melodies. (2)
Transfer credit: UC, CSU

MUSIC APPRECIATION III: LISTENING AND UNDERSTANDING
3 hours lecture weekly
Studies continue with additional major scales, cadence chord progressions, damper pedal technique, and further introductory/intermediate literature. (2)
Transfer credit: UC, CSU

MUSIC APPRECIATION IV: LISTENING AND UNDERSTANDING
3 hours lecture weekly
Studies continue with all remaining major scales, more intermediate piano literature, technique, improvisation, harmonization and sight-reading. (2)
Transfer credit: UC, CSU

MUSIC APPRECIATION V: LISTENING AND UNDERSTANDING
3 hours lecture weekly
Students will perform and study music of the 19th century, Romantic, Impressionism, 20th century and beyond. (2)
Transfer credit: UC, CSU

VOCAL TECHNIQUES
2½ hours lecture, 1½ hours lab weekly
Designed to begin development of vocal potential, to lay a foundation for proper vocal production, and to correct faulty singing. Material consists of song literature sung in English and vocal exercises. Basically for non-music majors or persons with little singing experience. (2)
Transfer credit: UC, CSU

MUSIC COURSES

MUS R101—Fundamentals of Music
3 hours lecture weekly
Fundamentals of Music is designed for students with little or no prior understanding of music who wish to learn to read music. The objective is to gain a basic understanding of scales, intervals, chords, key signatures, time signatures, musical symbols and the piano keyboard.
Transfer credit: UC, CSU

MUS R103A—Music Appreciation I: Listening and Understanding
3 hours lecture weekly

MUS R106—College Choir
2 units
1 hour lecture, 3 hours lab weekly
The Oxnard College Choir, a singing organization open to all students, learns and performs a wide variety of choral music from both the classical and popular repertoires. The choir performs at musical events on campus and/or off-site events in the community. Field trips may be required. Course may be taken four times. (2)
Transfer credit: UC, CSU

MUS R107A—Class Piano I
2 units
1 hour lecture, 3 hours lab weekly
This course starts with fundamentals of piano playing. It continues through accompaniments, studies in piano literature, to reading choral scores, improvisation and harmonization of melodies. (2)
Transfer credit: UC, CSU

MUS R107B—Class Piano II
2 units
1 hour lecture, 3 hours lab weekly
Studies continue with additional major scales, cadence chord progressions, damper pedal technique, and further introductory/intermediate literature. (2)
Transfer credit: UC, CSU

MUS R107C—Class Piano III
2 units
1 hour lecture, 3 hours lab weekly
Studies continue with all remaining major scales, more intermediate piano literature, technique, improvisation, harmonization and sight-reading. (2)
Transfer credit: UC, CSU

MUS R107D—Class Piano IV
2 units
1 hour lecture, 3 hours lab weekly
Studies continue in more advanced piano literature, technique, improvisation, harmonization and sight-reading. (2)
Transfer credit: UC, CSU

MUS R110A—Voice I: Fundamentals of Vocal Techniques
3 units
2½ hours lecture, 1½ hours lab weekly

MUS R110B—Voice II: Intermediate Vocal Techniques
3 units
2½ hours lecture, 1½ hours lab weekly

MUS R110C—Voice III: Advanced Vocal Techniques
3 units
2½ hours lecture, 1½ hours lab weekly

MUSIC BUSINESS ADMINISTRATION
2 units
This course is designed to prepare students for the music business through the study of the principles and theories of managing a music business.