MATHEMATICS

Applies arithmetic to a variety of problems found in the business field, including
MTH 30. Business Mathematics. 4 Credits.
Prerequisites: (ABE 0782 or placement into MTH 20) and (RD 80 or ESOL 250).
and in oral and written form. Scientific calculator required. The PCC math
department recommends that students take MTH courses in consecutive terms.
Prerequisites: MTH 20 and (RD 80 or ESOL 250) or equivalent placement. Audit available.

MTH 58. Math Literacy I. 4 Credits.
Introduces pattern recognition, estimation and number sense, working with units, spreadsheets, linear equations and inequalities. Explores how to clearly communicate arguments supported by quantitative evidence using words, tables, graphs, and mathematical equations. Supports collaborative learning through class group interaction. TI-83 or TI-84 calculator required. Recommended: MTH 20 and (WR 80 or ESOL 252) and (RD 80 or ESOL 250) or equivalent placement. Audit available.

MTH 60. Introductory Algebra - First Term. 4 Credits.
Introduces algebraic concepts and processes with a focus on linear equations, linear inequalities, and systems of linear equations. Emphasizes number-
sense, applications, graphs, formulas, and proper mathematical notation. Recommended: MTH 20 be taken within the past 4 terms. The PCC math department recommends that students take MTH courses in consecutive terms. Prerequisites: MTH 20 and (RD 80 or ESOL 250) or equivalent placement. Audit available.

MTH 61. Introductory Algebra - Part I. 3 Credits.
Introduces algebraic concepts and processes with a focus on linear equations and inequalities in one variable. Emphasizes applications, formulas, and proper mathematical notation. A scientific calculator is required. The TI-30X II is recommended. Completion of MTH 61 and MTH 62 is equivalent to MTH 60. The PCC math department recommends that students take MTH courses in consecutive terms. Prerequisite: MTH 20 and (RD 80 or ESOL 250) or equivalent placement. Audit available.

MTH 62. Introductory Algebra - Part II. 3 Credits.
Introduces algebraic concepts and processes with a focus on linear equations in two variables. Emphasizes functions, formulas, and proper mathematical notation. A scientific calculator is required. The TI-30X II is recommended. Completion of MTH 61 and MTH 62 is equivalent to MTH 60. Completion of MTH 62 and MTH 63 is equivalent to MTH 65. The PCC math department recommends that students take MTH courses in consecutive terms. Prerequisite: (MTH 60 or MTH 61) and (RD 80 or ESOL 250) or equivalent placement. Audit available.

MTH 63. Introductory Algebra - Part III. 3 Credits.
Introduces algebraic concepts and processes with a focus on functions, polynomials, and quadratic equations. Emphasizes applications, graphs, functions, formulas, and proper mathematical notation. A scientific calculator is required. The TI-30X II is recommended. Completion of MTH 61 and MTH 62 is equivalent to MTH 65. The PCC math department recommends that students take MTH courses in consecutive terms. Prerequisite: (MTH 60 or MTH 61) and (RD 80 or ESOL 250) or equivalent placement. Audit available.

MTH 64. Introductory Algebra - Second Term. 4 Credits.
Introduces algebraic concepts and processes with a focus on polynomials, exponents, roots, geometry, dimensional analysis, solving quadratic equations, and graphing parabolas. Emphasizes number-sense, applications, graphs, formulas, and proper mathematical notation. Recommended: MTH 60 or MTH 62 be taken within the past 4 terms. The PCC math department recommends that students take MTH courses in consecutive terms. Prerequisite: (MTH 60 or MTH 62) and (RD 80 or ESOL 250) or equivalent placement. Audit available.

MTH 70. Review of Introductory Algebra. 4 Credits.
Reviews algebraic concepts and processes with a focus on linear equations and inequalities in one and two variables, linear systems, properties of exponents, polynomials, radicals, quadratic equations, and functions. Emphasizes applications, graphs, formulas, and proper mathematical notation. Recommended: MTH 63 or MTH 65 be taken within the past 4 terms. The PCC math department recommends that students take MTH courses in consecutive terms. Prerequisites: (MTH 63 or MTH 65) and (RD 80 or ESOL 250) or equivalent placement. Audit available.

MTH 76. Introduction to GeoGebra. 1 Credit.
Introduces use of the free math software GeoGebra. Explores the power of the graphing and computer algebra systems for use by a student and/or instructor. Access to a computer or tablet with Java and internet access is required. Prerequisites: MTH 20 and (WR 115 and RD 115) or IRW 115 or equivalent placement. Audit available.

MTH 84. Introduction to LaTeX. 1 Credit.
Explores the power of LaTeX for use at school, home, or the workplace for mathematical documents and other applications. Prerequisite: MTH 20 and (WR 115 and RD 115) or IRW 115 or equivalent placement. Audit available.
MATH 95. Intermediate Algebra. 4 Credits.
Introduces algebraic methods and processes with a focus on factoring, functions, rational expressions, solving equations (quadratic, rational, radical, absolute value), and solving inequalities. Emphasizes number-sense, applications, graphs, formulas, and proper mathematical notation. Recommended: MTH 63 or MTH 65 or MTH 70 be taken within the past 4 terms. The PCC math department recommends that students take MTH courses in consecutive terms. Prerequisites: (MTH 63 or MTH 65 or MTH 70) and (RD 90 and WR 90) or IRW 90 or equivalent placement. Audit available.

MATH 98. Math Literacy II. 4 Credits.
Introduces normal distribution and regression/curve fitting. Covers modeling, graphing, and solving of linear and quadratic equations. Introduces problem solving with linear systems of equations. Explores how to clearly communicate sophisticated arguments supported by quantitative evidence using spreadsheets, words, tables, graphs, and mathematical equations, as appropriate. Supports collaborative learning through class group interaction. TI-83 or TI-84 calculator required. Recommendation: MTH 58 or MTH 63 or MTH 65 or MTH 70 be taken within the past 4 terms. Prerequisites: (MTH 58 or MTH 63 or MTH 70 and (RD 90 and ESOL 260) and (WR 90 and ESOL 262) or IRW 90 or equivalent placement. Audit available.

MATH 105. Math in Society. 4 Credits.
Explores concepts and applications of logic rules, basic probability and statistics as well as personal finance models. Investigates problem solving techniques (algebraic and nonalgebraic) as well as some nontraditional mathematics topics such as social choice or discrete mathematics. Integrates technology where appropriate. The PCC Mathematics Department recommends that students take MTH courses in consecutive terms. Prerequisites: MTH 95 or MTH 98 and (RD 115 and WR 115) or IRW 90 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAOT, Science, Math, Computer Science/AS, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B.

MATH 111. College Algebra. 5 Credits.
Explores relations and functions graphically, numerically, symbolically, and verbally. Examines exponential, logarithmic, polynomial, and rational functions. Investigates applications from a variety of perspectives. Graphing technology is required, such as Desmos and/or GeoGebra which are available at no cost. The PCC math department recommends that students take MTH courses in consecutive terms. Recommended: MTH 95 or MTH 98 and (RD 115 and WR 115) or IRW 90 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAOT, Science, Math, Computer Science/AS, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B.

MATH 111H. College Algebra: Honors. 5 Credits.
Honors version of MTH 111. Explores relations and functions graphically, numerically, symbolically, and verbally. Examines exponential, logarithmic, polynomial, and rational functions. Investigates applications from a variety of perspectives. Graphing technology is required, such as Desmos and/or GeoGebra which are available at no cost. The PCC math department recommends that students take MTH courses in consecutive terms. Recommended: MTH 95 or MTH 98 and (RD 115 and WR 115) or IRW 90 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AS, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B.

MATH 112. Elementary Functions. 5 Credits.
Investigates trigonometric functions, equations and identities. Examines right and oblique triangles, vectors, polar coordinates, parametric equations, and complex numbers. Explores topics graphically, numerically, symbolically, and verbally. Examines exponential, logarithmic, polynomial, and rational functions. Investigates applications from a variety of perspectives. Graphing technology is required, such as Desmos and/or GeoGebra which are available at no cost. The PCC math department recommends that students take MTH courses in consecutive terms. Recommended: MTH 111 or MTH 112 or MTH 111B taken within the past 4 terms. Prerequisites: (MTH 111 or MTH 111B or MTH 111C) and (RD 115 and WR 115) or IRW 90 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AS, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B.

MATH 211. Foundations of Elementary Math I. 4 Credits.
Examines the conceptual basis of K-8 mathematics using collaborative learning through in-class group interaction. Provides opportunities to experience using manipulatives to model problem solving, numerator systems, operations, patterns and change, and number theory. Emphasizes quantitative and algebraic reasoning. Includes content and mathematical practices based on the Common Core State Standards. Prerequisite: MTH 95 or MTH 98 or higher, and (WR 115 and RD 115) or IRW 115 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAOT, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/ASOT-B.

MATH 212. Foundations of Elementary Math II. 4 Credits.
Examines the conceptual basis of K-8 mathematics using collaborative learning through in-class group interaction. Provides opportunities to experience using manipulatives to model operations with rational numbers including fractions, decimals, percents, and integers. Explores the set of irrational numbers, the set of real numbers, proportional reasoning, and simple probability and statistics. Includes content and mathematical practices based on the Common Core State Standards. Prerequisite: MTH 211 and (WR 115 and RD 115) or IRW 115 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAOT, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AGS.

MATH 213. Foundations of Elementary Math III. 4 Credits.
Examines the conceptual basis of K-8 mathematics using collaborative learning through in-class group interaction. Provides opportunities to experience using manipulatives to model problem solving, explore patterns and relationships among geometric figures and develop spatial reasoning. Explores informal geometry, transformational geometry, and measurement systems. Includes content and mathematical practices based on the Common Core State Standards. Prerequisite: MTH 211 and (WR 115 and RD 115) or IRW 115 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAOT, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AGS.

MATH 241. Calculus for Management, Life and Social Science. 4 Credits.
Includes limits, continuity, derivatives, and integrals. Investigates applications from science, business, and social science perspectives. Graphing calculator required. TI-89 Titanium or Casio Classpad recommended. Prerequisite: (MTH 111 or MTH 111B or MTH 111C) and (WR 115 and RD 115) or IRW 115 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAOT, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/ASOT-B.

MATH 243. Statistics I. 5 Credits.
Includes displaying data with graphs, numerical descriptions of data, producing data, elementary probability, probability distributions, confidence intervals and significance testing. Investigates applications from science, business, and social science perspectives. Graphing calculator with advanced statistical programs and/or computer software required; see instructor. Recommended: MTH 111. Prerequisite: MTH 95 or MTH 98 or higher, and (WR 115 and RD 115) or IRW 115 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAOT, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AGS.

MATH 244. Statistics II. 4 Credits.
Includes confidence interval estimation; tests of significance including z-tests, t-tests, ANOVA, and chi-square; and inference for linear regression. Investigates applications from science, business, and social science perspectives. Graphing calculator with advanced statistical programs and/or computer software required; see instructor. Recommended: MTH 243 and (WR 115 and RD 115) or IRW 115 or equivalent placement. Audit available. This course fulfills the following GE requirements: Science, Math, Computer Science/AAOT, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/ASOT-B, Science, Math, Computer Science/AGS, Science, Math, Computer Science/ASOT-B.
MTH 252. Calculus II. 4 Credits.
Includes antiderivatives, the definite integral, topics of integration, improper
integrals, and applications of differentiation and integration. Graphing
technology is required, such as Desmos and/or GeoGebra which are available
at no cost. Prerequisite: MTH 251 and (WR 115 and RD 115) or IRW 115
or equivalent placement. Audit available. This course fulfills the following
Math, Computer Science/ASOT-B, Science, Math, Computer Science/AAOT.

MTH 253. Calculus III. 5 Credits.
Includes infinite sequences and series (including Taylor series), vectors, and
gameometry of space. Graphing calculator required. TI-89 Titanium or Casio
Classpad 330 recommended. Prerequisite: MTH 252 and (WR 115 and RD 115)
or IRW 115 or equivalent placement. Audit available. This course fulfills the
following GE requirements: Science, Math, Computer Science/ASOT-B,
Science, Math, Computer Science/AAOT, Science, Math, Computer Science/
AAS, Science, Math, Computer Science/AGS, Science, Math, Computer Science/
AS.

MTH 254. Vector Calculus I. 5 Credits.
Includes multivariate and vector-valued functions from a graphical, numerical,
and symbolic perspective. Applies integration and differentiation of both types
of functions to solve real world problems. Graphing calculator required. TI-89
Titanium or Casio Classpad 330 recommended. Prerequisite: MTH 253 and
(WR 115 and RD 115) or IRW 115 or equivalent placement. Audit available.
This course fulfills the following GE requirements: Science, Math, Computer
Science/AAS, Science, Math, Computer Science/AGS, Science, Math,
Computer Science/AS, Science, Math, Computer Science/AAOT, Science,
Math, Computer Science/ASOT-B.

MTH 256. Differential Equations. 5 Credits.
Includes a variety of differential equations and their solutions, with emphasis on
applied problems in engineering and physics. Differential equations software
will be used. Students communicate results in oral and written form. Graphing
calculator required. TI-89 Titanium or Casio Classpad 330 recommended. Recommanded: MTH 254. Prerequisites: (MTH 252 and MTH 261) and (WR 115
and RD 115) or IRW 115 or equivalent placement. Audit Available. This course
fulfills the following GE requirements: Science, Math, Computer Science/ASOT-
B, Science, Math, Computer Science/AAS, Science, Math, Computer Science/
AAOT.

MTH 261. Applied Linear Algebra I. 5 Credits.
Covers elementary linear algebra with a focus on n-space and applications.
Includes linear systems, vectors in n-space, vector space properties of n-
space, and matrix algebra, including eigenspaces. Required: Matrix-capable
calculator. Recommended: TI-89 Titanium or Casio Classpad 330. Prerequisite:
MTH 252 and (WR 115 and RD 115) or IRW 115 or equivalent placement. Audit
available. This course fulfills the following GE requirements: Science, Math,
Computer Science/AAOT, Science, Math, Computer Science/ASOT-B, Science,
Math, Computer Science/AS, Science, Math, Computer Science/AAS, Science,
Math, Computer Science/AGS.