

POMONA MATH CLASSES—FALL 2017

Math 29: Calculus and Applied Mathematics for Science & Economics. An introduction to Calculus I as well as quantitative problem solving with applications.

Omayra Ortega, MWF 11:00–11:50

Math 30: Calculus I. Standard first course in the calculus of one variable, this course focuses on limits, derivatives, integrals, mean-value theorems and the Fundamental Theorem of Calculus.

Ami Radunskaya, MWF 9:00–9:50 and 11:00–11:50

Math 31: Calculus II. A standard second course in the calculus of one variable, this course focuses on transcendental functions, techniques of integration, infinite series and related material.

Ellie Dannenberg, MWF 9:00–9:50 and 10:00–10:50

Prereq: Calculus I

Math 31H: Honors Topics in Calculus II. Explores selected topics from Calculus II in greater depth than calculus II and relates these topics to other areas of mathematics. For students familiar with Calculus II but are not yet ready for Calculus III or Linear Algebra.

Ghassan Sarkis, TR 1:15–2:30

Prereq: Calculus I

Math 31S: Calculus II with Applications to the Sciences. Core topics of Calculus II, plus an introduction to modeling, differential equations & computing, in the context of problems from the sciences. Excellent background for Calculus III or for use in other fields.

Blerta Shtylla, MWF 10:00–10:50

Prereq: Calculus I

Math 32: Calculus III. Standard course in the calculus of several variables, this course covers vectors and vector functions, partial derivatives and differentiability of functions of several variables, multiple integrals.

Kim Ayers, MWF 9:00–9:50 and 10:00–10:50

Prereq: Calculus II

Math 58: Intro to Statistics with Lab. Methodology and tools vital to the researcher in both the sciences and social sciences. Applications to current data using statistical computer software.

Gabe Chandler, TR 9:35–10:50, and Lab F 1:15–2:30 *Not recommended after AP stats*

Math 60: Linear Algebra. Standard first course emphasizing vector spaces, linear transformations, and eigentheory, with proofs and applications. Required for many upper division math classes.

Kim Ayers, MWF 11:00–12:15

Prereq: Calculus II

Shahriar Shahriari, MW 1:15–2:30

Stephan Garcia, TR 1:15–2:30

Math 67: Vector Calculus. Multivariable differential and integral calculus with a linear algebraic perspective, with an introduction to differential forms. A more theoretical approach than Math 32.

Omayra Ortega, MWF 9:00–9:50

Prereqs: Calculus II and Linear Algebra

Math 101: Intro to Analysis. Workshop course on how to write rigorous proofs about sequences, limits and continuity. Satisfies the speaking intensive requirement.

Erica Flapan, MWF 10:00–10:50

Prereq: Linear Algebra

Math 102: Differential Equations. Qualitative study of differential equations via analytic methods or numerical techniques using standard mathematical software packages.

Blerta Shtylla, MWF 11:00–11:50, and Lab F 1:15–2:30 Prereqs: Multivariable Calculus and Linear Algebra

Math 103: Combinatorics. Intro to the techniques and ideas of combinatorics including counting methods, generating functions, Ramsey theory, graphs, networks and extremal combinatorics.

Shahriar Shahriari, MW 2:45–4:00

Prereq: Linear Algebra

Math 131: Principles of Real Analysis I. Countable sets, least upper bounds and metric space topology including compactness, completeness, connectivity and uniform convergence.

Erica Flapan, MWF 11:00–11:50 Prereq: Calculus II or Vector Calculus; and Linear Algebra. A proof-based course above 100 is strongly recommended.

Math 137: Real & Functional Analysis I. A graduate-level course covering abstract measures, Lebesgue measure on R^n and Lebesgue-Stieljes measure on R , the Lebesgue integral and limit theorems, product measures and the Fubini Theorem.

Stephan Garcia, TR 9:35–10:50

Prereq: Principles of Real Analysis II.

Math 151: Probability. Probability spaces, discrete and continuous random variables, conditional and marginal distributions, independence, expectation, generating functions, transformations, central limit theorem.

Adolfo Rumbos, MWF 9:00–9:50

Prereqs: Multivariable Calculus and Linear Algebra

Math 152: Statistical Theory. Introduction to statistical inference, estimation of parameters, confidence intervals, Bayesian analysis and tests of hypotheses.

Gabriel Chandler, TR 1:15–2:30

Prereqs: Probability

Math 154: Computational Statistics. An introduction to computationally intensive statistical techniques. Theory and applications are both highlighted. Algorithms will be implemented using statistical software.

Jo Hardin, MW 1:15–2:30 and 2:45–4:00 Prereqs: Calculus II or Calculus III; and Intro to Stats.

Math 174: Representation Theory. Topics include group rings, characters, orthogonality relations, induced representations, application of representation theory and other select topics from module theory.

Gizem Karaali, TR 2:45–4:00

Prereq: Math 171

Math 188: Topics in Applied Mathematics. Topic for fall 2017 is Variational Methods and Optimization, an introduction to the calculus of variations and the variational approach in the theory of differential equations. This interplay between the theory of differential equations and the calculus of variations will be one of the major themes in the course.

Adolfo Rumbos, MWF 10:00–10:50 Prereqs: Math 102 & either Math 101 or Math 131