Mathematics Department

Professor Adolfo Rumbos, department chair

Professors Elderkin, Flapan, Grabiner, Radunskaya, Rumbos, Shahriari
Professor Emeritus Bentley
Associate Professor Hardin
Assistant Professors de Silva, Garcia[3], Karaali[3], Sarkis
Visiting Assistant Professors J. Levitt, R. Levitt

For more than 2,000 years, mathematics has been fundamental in a liberal education; in modern times, it has become the language of the natural sciences and a powerful tool in the social sciences. The mathematics curriculum at Pomona College is as well-suited to the student who wants a liberal arts introduction to mathematical thought as it is to the social or natural scientist who needs technical expertise in mathematical, statistical and computational methods. The Mathematics Major provides a broad and comprehensive offering of courses in all the mathematical sciences, including probability, statistics and operations research, as well as in the traditional areas of pure and applied mathematics. Pomona joins with the other Claremont Colleges in offering its students courses from some 60 faculty mathematicians. Programs range from the usual B.A. to a combined B.A.-M.A. program offered jointly with Claremont Graduate University to the Claremont Graduate University Ph.D. program in pure and applied mathematics. Brochures describing all mathematics courses in Claremont are available either from the Mathematics Department or the Office of Admissions. The department also offers a minor.

Requirements for the Major in Mathematics

The Mathematics Major is organized by tracks that help students define and explore their interests. Students should work closely with an advisor in the Mathematics Department to select courses.

The Mathematics Major requires the following:

1) Single Variable Calculus (30 and 31)
2) Multivariable Calculus or Vector Calculus (32 or 107)
3) Linear Algebra (60)
4) Eight additional upper-division courses within one of the tracks
5) The senior exercise including participation in the Seminar in Mathematical Exposition (190) and the Senior Thesis (191), writing a paper on a mathematical project under the direction of a departmentally approved advisor and the oral presentation of the paper. To be considered for distinction in the senior exercise, a student must produce an excellent senior thesis and, in addition to requirements of the chosen track, must take two mathematics courses above 120.

Based upon prior work, students may place out of some or all of the first three requirements (Calculus and Linear Algebra). After Single Variable Calculus, many students follow Multivariable Calculus (32) with Linear Algebra (60). However, students who plan to continue with mathematics are encouraged to take Linear Algebra followed by Vector Calculus (107). Additional information is available in the department and on the mathematics Webpage at *www.math.pomona.edu*.

The *general mathematics track* develops a broad understanding of all the mathematical sciences. Students who are also majoring in another subject, could find this track appropriate, as might those who are interested in becoming high school mathematics teachers. The *pure mathematics track* is especially appropriate for students who want to understand mathematics on its own terms, particularly those who plan on graduate study in mathematics. The *applied mathematics track* helps students develop an individualized curriculum

[3]On leave 2009-10

in mathematics that is motivated by, and helpful to, other fields of inquiry, such as economics, biology or other sciences. This track is particularly appropriate as preparation for post-baccalaureate employment in industry or graduate study in applied mathematics. The *statistics track* provides a background in both theory and practice in data analysis, appropriate for both employment and graduate study.

General Mathematics Track Requirements

1. One course from each of the following categories:
   a. 152, 155, 157, 158, 159
   b. 102, 112, 113, 151, 187
   c. 101, 131, 135, 136, 142
   d. 103, 171, 173
2. Two additional courses chosen from mathematics courses numbered above 100, or from the following list of related courses in other departments. BIOL 173; CHEM 1B, 51, 158A, B; ECON 52, 101, 102, 107, 154, 167; GEOL 115, 185; PHYS 51B, 51H; any computer science course numbered above 50, except CS 55; or any physics course numbered above 100. With departmental approval, other mathematically-related courses may be used.
3. Two additional mathematics courses numbered 120 or above

Pure Mathematics Track Requirements

1. One course from 101, 102, 103 as transition to the upper-division. 131 may be substituted for 101, in which case three courses must be chosen in requirement 5.
2. 131 and 171 and one of 132, 172, 174, or 177
3. One course from among 135, 136, 142, 145, 147
4. One course from among 102, 103, 112, 113, 151, 158, 159, 187
5. Two additional mathematics courses numbered 120 or above

Applied Mathematics Track Requirements

1. 102, 151 and 183
2. Two courses from among 131, 132, 135 or 136, 180 or 182, 181
3. Three courses from among the following categories, with at least one from category (a):
   a. 152, 155 or 157 or 158 or 159, 156, 164 or 165, 186, 187, 196; CSCI 140
   b. Mathematics courses numbered above 100
   c. BIOL 104, 173; CHEM 158A, B; ECON 101, 102, 107, 154, 167; GEOL 115, 185; PHYS 125, 142, 148, 155, 160, 170, 175, 180

Statistics Track Requirements

1. 151 and 152
2. An approved experience in data analysis (58, 58B, 155, 157, 158 or 159)
3. 101 or 131
4. Four additional courses from among 103, 113, 131, 132, 135 or 136, 137, 155, 156, 157, 158, 159, 173, 183, 184, 186, 187; HM 188; courses numbered in the 350s at Claremont Graduate University

Requirements for a Minor in Mathematics

To complete the minor, students must pass Single Variable Calculus (30 and 31), Multivariable Calculus or Vector Calculus (32 or 107), Linear Algebra (60) and three additional mathematics courses numbered above 100. Only one of the three upper-division courses can count toward the student's major.

Other Information

Placement. For advising purposes, all first-year students who wish to enroll in a mathematics course must take a mathematics placement exam before enrollment in courses. Most will enter 29, 30, 31, 31H, 31S, 32, 36 or 60, but alternatives may be chosen based upon departmental advising.

Departmental Policy on Grades and Prerequisite Courses. To enter 31, the grade earned in 30 must be C-minus or better; for courses numbered 32 or above, the grade earned in prerequisite courses must be C or better. Because of widely varying preparations among students in the calculus courses, it is expected that they will need to fill various gaps in their backgrounds during the semester, with help from their instructors. Students must earn a letter grade of C-minus or better in each of the eight upper-division mathematics courses required for the major.

Courses

Mathematics (MATH) courses satisfy Area 5 of the Breadth of Study Requirements.

PZ 1. Mathematics, Philosophy and the Real World. *Ms. J. Grabiner.* Throughout history, mathematics has changed the way people look at the world. This course focuses on two examples: Euclidean geometry and probability and statistics. Readings and problems from Euclid's *Elements of Geometry*, modern elementary works on probability and its applications, and the writings of philosophers whose views were strongly influenced by mathematics. Prerequisite: high-school algebra. Each fall.

PZ 7. Mathematics of Gambling. *Mr. Hoste.* Introduction to probability. Topics include combinations, permutation, probability, expected value, Markov chains and graph theory Excellent preparation for statistics courses. Prerequisite: high school algebra. Fall 2010; offered alternate years.

PZ 10B. Cartography. *Mr. Bachman.* Study various aspects of the history and mathematics of map making. Topics include surveying, finding longitude and latitude, globe projections and spherical trigonometry. Spring 2011.

PZ 10G. Mathematics in Many Cultures. *Ms. J. Grabiner.* Mathematical ideas are found in many cultures, among both literate and non-literate peoples. This course examines both mathematics and the role it plays in the cultures. Examples chosen from the mathematical ideas of present-day peoples of Africa, Asia, Oceania and the Americas, as well as historic Egypt, Mesopotamia, Greece, Islam and China. Each spring.

PZ 10HC. Topology. *Mr. Hoste.* This course explores the shape of 1-,2-,3- and 4-dimensional space. Is the universe curved or flat? Could an astronaut return from a long journey as the mirror image of her former self? What do knots have to do with this? The subject is extremely visual—we will draw pictures and make models in order to gain insight. Each spring.

29. Advanced Problem Solving. *Ms. Flapan.* Course addresses hard problems that arise in the sciences and social sciences. Emphasis placed on translating complex word problems into mathematics and developing mathematical techniques to solve the problems. This course is independent of the calculus curriculum and is intended to help students studying chemistry or economics. Each fall.

30. Calculus I. *Ms. Flapan, Ms. R. Levitt, Staff.* 30, 31 and 32 comprise a standard course in the calculus of one and several variables. This course focuses on limits, derivatives, integrals, mean-value theorems and the Fundamental Theorem of Calculus. Prerequisite: satisfactory score on placement examination. Each semester.

31. Calculus II. *Mr. J. Levitt, Staff.* Transcendental functions, techniques of integration, infinite series and related material. Prerequisite: 30 or satisfactory score on placement examination. Each semester.

31H. Honors Topics in Calculus II. *Mr. Shahriari.* Explores selected topics from Calculus II in greater depth than 31 and relates these topics to other areas of mathematics. This course

is intended for students who have already seen some of the Calculus II material but are not yet ready for Calculus III or Linear Algebra. Prerequisite: 30 or a satisfactory score on the placement examination. Each fall.

31S. Calculus II with Applications to the Life Sciences. *Ms. Radunskaya.* The core topics of 31, as well as an introduction to modeling, differential equations and computing, in the context of problems from the life sciences. Both an excellent background for students who intend to go on to 32 as well as for those who intend to take no further mathematics courses. Each fall.

32. Calculus III. *Mr. Elderkin, Ms. R. Levitt, Staff.* Vectors and vector functions, partial derivatives and differentiability of functions of several variables, multiple integrals. Prerequisite: one of 31, 31H, 31S (C or better) or satisfactory score on placement examination. Students can receive credit for only one of 32, 32H or 107. Each semester.

36. Mathematical and Computational Methods in the Life Sciences. *Ms. Radunskaya, Mr. Rumbos.* Mathematical modeling motivated by problems in biology. Topics covered include probability, discrete dynamics, differential equations, linear algebra and statistics. Some computational techniques are presented to lend power to the theory. This course provides analytical and computational tools for the life scientist and motivates further study in mathematics. Prerequisite: one of 31, 31H, 31S, or satisfactory score on placement examination. Each spring.

58. Introduction to Statistics. *Ms. Hardin, Ms. Radunskaya, Mr. Rumbos.* An introduction to the methodology and tools which are vital to the researcher in both the sciences and social sciences. Introduction to probability; binomial, normal, t-,and Chi-squared distributions; testing hypotheses; confidence intervals; analysis of variance; and regression and correlation analysis. Concepts will be applied to current data using statistical computer software. Prerequisite: 30 or satisfactory score on placement examination. Not recommended for students who have taken AP statistics. Each fall.

58B. Introduction to Biostatistics. *Ms. Hardin.* An introduction to the methodology and tools which are vital to research in the biological and health sciences and medicine. Topics include probability; distributions of random variables; testing hypotheses; confidence intervals; analysis of variance; regression analysis; odds ratios; sensitivity and specificity; and nonparametric methods. Concepts will be applied to current data using statistical computer software. Prerequisite: 30 or equivalent. Not recommended for students who have taken AP statistics. Each spring.

60. Linear Algebra. *Mr. de Silva, Mr. Garcia, Mr. J. Levitt, Mr. Rumbos, Mr. Sarkis, Mr. Shahriari, Staff.* Emphasizes vector spaces and linear transformations. Linear independence and bases, null spaces and ranks of linear transformations, the algebra of linear transformations, the representation of linear transformations by matrices. Additional topics may include Gaussian elimination, inner product spaces; determinants, eigenvalues; and applications of linear algebra. Prerequisite: one of 31, 31H, 31S or 32. Each semester.

101. Introduction to Analysis. *Ms. Flapan, Ms. Karaali, Mr. Rumbos.* A workshop course on how to write proofs in the context of analysis. Focus on the construction and presentation of rigorous proofs. Learn how to use the language of analysis to prove results about sequences, limits and continuity. Students regularly present proofs in both written and oral form. Prerequisite: 60. Each semester.

102. Differential Equations and Modeling. *Mr. de Silva, Mr. Elderkin, Ms. Radunskaya, Mr. Rumbos.* Introduction to theory of ordinary differential equations, with applications to modeling in physical, biological and social sciences. Emphasis on qualitative study of differential equations via analytic methods or numerical techniques using standard mathematical software packages. A good understanding of theory of vector spaces and linear transformations is assumed. Prerequisites: 32 or 107; and 60. Each semester.

103. Combinatorial Mathematics. *Mr. de Silva, Mr. Shahriari.* An introduction to the techniques and ideas of combinatorics including counting methods, generating functions, Ramsey theory, graphs, networks and extremal combinatorics. Offered jointly by Pomona and Scripps colleges. Prerequisite: 60. Each fall.

107. Vector Calculus. *Mr. de Silva, Mr. Rumbos.* Building on linear algebra and single-variable calculus, gives a streamlined introduction to multivariable (or "vector") calculus. Topics include different types of integrals (line, double, surface, triple) and derivatives (partial, directional, total); the famous div, grad and curl operators; why the chain rule is easy and fun; the all-time best version of the fundamental theorem of calculus (by Stokes); and an answer to the vexing question: "What is dx?" Prerequisite: 60. Students can receive credit for only one of 32 or 107. Each semester.

PZ 108. History of Mathematics. *Ms. J. Grabiner.* The historical development of important ideas in mathematics from antiquity to the 19th century, including the concept of rigorous proof; irrational numbers; the rigorization of analysis; the modern view of mathematics as the study of abstract systems; and the interaction between mathematics, science and philosophy. Prerequisite: 31. Fall 2009; offered alternate years.

112. Discrete Dynamical Systems and Chaos. *Ms. Radunskaya*. The studies of discrete dynamical systems in dimensions one and higher is motivated and presented with examples taken from the recent research literature, including mathematical models of biological processes and neural networks. Among the mathematical topics introduced will be routes to chaos, bifurcation analysis and Sarkovskii's Theorem. Prerequisites: 32 or 107; and 60. Spring 2010.

113. Cryptography. *Mr. Sarkis.* Provides an overview of private and public key ciphers, including RSA, DES, & NTRU, digital signatures and protocols. Topics from complexity, probability, and number theory will be developed as needed. Prerequisite: 60. Spring 2011.

131. Principles of Real Analysis I. *Ms. Aksoy, Ms. Flapan, Mr. Garcia, Mr. Grabiner, Mr. Ou*. Countable sets, least upper bounds and metric space topology including compactness, completeness, connectivity and uniform convergence. Prerequisites: 32 or 107 and 60; a proof-based course above 100 is strongly recommended. Fall 2009, each fall at Pomona. Claremont McKenna and Harvey Mudd, Spring 2010.

132. Principles of Real Analysis II. *Mr. Garcia, Mr. Grabiner, Mr. Pippenger.* A rigorous study of calculus in Euclidean Spaces, including multiple Riemann Integrals, derivatives of transformations and the inverse function theorem. Prerequisite: 131. Offered Harvey Mudd, Fall 2009; Pomona, Spring 2010. Each spring at Pomona.

135. Functions of a Complex Variable. *Ms. Aksoy, Mr. Garcia*. Topics may include: Cauchy Riemann equations, harmonic functions, Cauchy's Theorem, Liouville's Theorem, Cauchy's Integral Formula, Maximum Modulus Principle, Argument Principle, Rouche's Theorem, series expansions, isolated singularities, calculus of residues and conformal mapping. Prerequisites: 32 or 107, and 60; 101 or 131. Claremont McKenna, Fall 2009. Pomona, Fall 2010; offered alternate years at Pomona.

HM 136. Complex Variables and Integral Transforms. *Mr. Jacobsen*. Complex differentiation, Cauchy-Reimann equations, Cauchy integral formula, residue theory, Taylor and Laurent expansions, conformal mapping, Fourier and Laplace transforms, inversion formulas, other integral transforms, applications to solutions of partial differential equations. Prerequisite: 32 or 107; and 60. Credit not allowed for both 135 and 136. Each fall.

137. Real and Functional Analysis I. *Mr. Grabiner, Staff.* Abstract measures, Lebesgue measure, on Rn and Lebesgue-Stieljes measure on R. The Lebesgue integral and limit theorems. Product measures and the Fubini Theorem. Additional related topics as time permits. Prerequisites: 131 and 132. Each fall.

138. Real and Functional Analysis II. *Mr. Grabiner, Staff.* Continuation of MATH 137. Some of the topics covered will be Banach and Hilbert spaces, Lp spaces, complex measures and Radon-Nikodym theorem. Prerequisite: MATH 137. Each spring.

142. Differential Geometry. *Ms. Gu, Ms. Karaali*. Curves and surfaces, Gaussian curvature, isometries, tensor analysis and covariant differentiation with application to physics and geometry. Intended for physicists and mathematicians. Prerequisites: 32 or 107; and 60. Offered Harvey Mudd, Fall 2009; Pomona, Spring 2012.

145. Topics in Geometry and Topology. *Mr. de Silva*. Topic varies from year to year and will be chosen from Differential Topology, Euclidean and Non-Euclidean geometries, Knot Theory, Algebraic Topology and Projective Geometry. Spring 2011.

147. Topology. *Ms. Flapan*. Topological spaces, product spaces, quotient spaces, Hausdorff spaces, compactness, connectedness, path connectedness, fundamental groups, homotopy of maps and covering spaces. Prerequisite: 131. Spring 2010; offered alternate years.

151. Probability. *Mr. Huber, Ms. Radunskaya*. Probability spaces, discrete and continuous random variables, conditional and marginal distributions, independence, expectation, generating functions, transformations, central limit theorem. Prerequisites: 32 or 107; and 60. Each semester.

152. Statistical Theory. *Ms. Hardin, Mr. Huber, Mr. Rumbos.* Introduction to statistical inference, estimation of parameters, confidence intervals, Bayesian analysis and tests of hypotheses. Prerequisite: 151. Each semester.

155. Statistical Analysis of Genetic Data. *Ms. Hardin*. Statistical methods used in analyzing microarray data (quantitative measurements of genetic activity) from image analysis to filtering to statistical methods applied to the data. Topics will be relevant for many other types of data and include data normalization, outlier detection, systematic biases, class prediction, class comparisons and multiple comparisons. Prerequisites: 30 and one of 58 or 152 or ECON 57 or PSYC 158, or AP Statistics. Spring 2012; offered alternate years.

HM 156. Stochastic Processes. *Ms. Martonosi*. Properties of independent and dependent random variables, conditional expectation. Topics chosen from Markov processes, second order processes, stationary processes, ergodic theory, Martingales and renewal theory. Prerequisite: 151. Fall 2010.

157. Statistical Methods for Clinical Trials Data. *Ms. Hardin*. A second course in Biostatistics. Emphasis on the most commonly used statistical methods in pharmaceutical and other medical research. Topics such as design of clinical trials, power and sample size determination, contingency table analysis, odds ratio and relative risk, survival analysis. Prerequisites: 30 and one of 58, 152, ECON 57, PSYC 158 or AP Statistics. Fall 2010; offered alternate years.

158. Statistical Linear Models. *Ms. Hardin*. An introduction to linear regression (including simple linear regression, multiple regression, variable selection, stepwise regression and analysis of residual plots) and analysis of variance (including one-way and two-way fixed effects ANOVA). Emphasis will be on both methods and applications to data. Statistical software will be used to analyze data. Prerequisite: one of 58, 152, ECON 57, PSYC 158 or AP Statistics. Spring 2011; offered alternate years.

159. Applied Nonparametric Analysis. *Ms. Hardin*. Covering traditional and modern techniques in nonparametrics, course focuses on analyzing data under appropriate assumptions, by investigating the mathematical derivations as well as the computational aspects of various techniques including sign and rank tests, goodness-of-fit tests, Fisher's exact test, bootstrapping and permutation tests. Statistical software will be used to analyze data. Prerequisites: 30 or 30H and one of the following: 58, 152, ECON 57, PSYC 158 or AP Statistics. Fall 2010; offered alternate years.

HM 165. Numerical Analysis. *Mr. Pippenger.* Theory and methods for numerical solution of mathematical problems. Analysis of error and efficiency of methods; solutions of linear systems by Gaussian elimination and iterative methods; calculation of eigenvalue and eigenvectors; interpolation and approximation; numerical integration; solution of ordinary differential equations. Prerequisite: 102. Each fall.

171. Abstract Algebra I: Groups and Rings. *Ms. Chaderjian, Mr. Karaali, Mr. Karp, Mr. Orrison, Mr. Sarkis, Mr. Shahriari*. Covers basic structures which appear throughout mathematics including groups and rings. Topics in group theory will include isomorphism theorems, orbits and stabilizers and coset partitions. Topics in ring theory will include ideals, quotient rings and prime and maximal ideals. Ring and field extensions may also be

introduced. Prerequisite: 60; a proof-based course above 100 is strongly recommended. Prerequisite for Harvey Mudd: 55. Each semester.

172. Abstract Algebra II: Galois Theory. *Mr. Fukshansky, Ms. Karaali, Mr. Sarkis.* The topics covered will include polynomial rings, field extensions, classical constructions, splitting fields, algebraic closure, separability, Fundamental Theorem of Galois Theory, Galois groups of polynomials and solvability. This course is independent from Math 174 and may be taken by students who have taken 174. Prerequisite: 171. CMC, Fall 2009. Pomona, Spring 2011; offered alternate years at Pomona.

173. Advanced Linear Algebra. *Mr. Garcia.* Topics may include approximation in inner product spaces, similarity, the spectral theorem, Jordan canonical form, the Cayley Hamilton Theorem, polar and singular value decomposition, Markov processes, behavior of systems of equations. Prerequisite: completion of a semester course in linear algebra; a proof based course above 100 or consent of the instructor. Spring 2011; offered alternate years.

174. Abstract Algebra II: Representation Theory. *Ms. Karaali, Mr. Orrison.* The topics covered will include group rings, characters, orthogonality relations, induced representations, application of representation theory and other select topics from module theory. Prerequisite: 171. This course is independent from Math 172 and may be taken by students who have taken 172. Each spring.

177. Advanced Topics in Algebra. *Mr. Sarkis.* Topic varies from year to year and will be chosen from representation theory, algebraic geometry, commutative algebra, algebraic number theory, coding theory, algebraic combinatorics; algebraic graph theory and matroid theory. Prerequisite: 171. Spring 2010.

HM 180. Applied Analysis. *Ms. Levy.* Orthogonal series and Sturm-Liouville problems, Fourier series and boundary value problems for partial differential equations, special functions of mathematical physics, integral transforms. Prerequisite: 131. Each fall.

181. Dynamical Systems. *Ms. Radunskaya, Mr. Rumbos.* Continuous dynamics and most of the following topics: linear and nonlinear systems; bifurcation theory and chaos; existence and uniqueness theory and dependence on data; Hartman-Grobman and Poincaré-Bendixson theorems; Lyapunov stability theory and stable manifold theory. Prerequisites: 101 or 136; 102. HM, Spring 2010. Pomona, Fall 2010.

HM 182. Partial Differential Equations. *Mr. Bernoff, Mr. Castro, Mr. Jacobsen, Ms. Levy.* Theory and applications of quasi-linear and linear equations of first order, including systems. Theory of higher order linear equations, including classical methods of solutions for the wave, heat and potential equations. Prerequisite: 115 or 180. Spring 2011; offered alternate years.

183. Mathematical Modeling. *Mr. Elderkin.* Introduction to the construction and interpretation of deterministic and stochastic models in the biological, social and physical sciences, including simulation studies. Students are required to develop a model in an area of their interest. Prerequisite: 102. Each spring.

187. Deterministic Operations Research. *Ms. Martonosi, Mr. Shahriari.* Linear, integer, nonlinear and dynamic programming; classical optimization problems; applications to Markov chains; networks and game theory. Prerequisites: 32 or 107; and 60. Harvey Mudd, Fall 2009. Pomona, Spring 2010; offered alternate years at Pomona.

190. Seminar in Mathematical Exposition. *Mr. Shahriari.* Directed study for majors. Seminar will discuss how to do a literature search in mathematics, how to read research papers in mathematics, how to write a mathematics paper and how to present a mathematics talk. Students will give oral presentations on the background material and major questions in the area of their senior research. Attendance is required. Required for senior majors. Half-course. Letter grade only. Each fall.

191. Senior Thesis. *Ms. Radunskaya, Mr. Rumbos.* Preparation and presentation of senior thesis for completion of the major. Required for senior majors; attendance is required. Half-course. Letter grade only. Each spring.

196. Clinic in Applied Mathematics. *Staff.* Mathematical modeling and analysis of current unsolved problems proposed by government or industry. Small groups of students work together under faculty direction and in communication with a client from industry or government. Mathematical content determined ad hoc by the problem. Literature search, computer simulation and written reports usually required. Frequent cooperation with mathematics clinics of other Claremont Colleges. Prerequisite: permission of instructor. Each semester.

198. Summer Research. *Staff.* Open by invitation to students of proven ability. A written report, talk, or poster presentation of the results of the summer's work required.

99/199. Reading and Research. *Staff.* Prerequisite: permission of instructor. 99, lower-level; 199, advanced work. Course or half-course. May be repeated. Each semester. (Summer Reading and Research taken as 98/198.)

99/199. Reading and Research. *Staff.* Prerequisite: permission of instructor. 99, lower-level; 199, advanced work. Course or half-course. May be repeated. Each semester. (Summer Reading and Research taken as 98/198.

Media Studies Department

Associate Professor Kathleen Fitzpatrick, department chair
Intercollegiate Media Studies Coordinating Committee: Professors Fitzpatrick, Juhasz (PZ), Macko (SC), Mayeri (HM), Morrison (CM).

Professors Juhasz (PZ), Macko (SC), Morrison (CM)
Associate Professors Fitzpatrick, Friedlander, Lerner (PZ), Ma (PZ), Mayeri (HM), Tran (SC)
Assistant Professor Hall[3]
Intercollegiate Media Studies Academic Director MacLean
Intercollegiate Media Studies Production Director Hutin

Media Studies is an intercollegiate major offered jointly by Claremont McKenna, Harvey Mudd, Pitzer, Pomona and Scripps colleges (Intercollegiate Media Studies [IMS]). Media Studies is an interdisciplinary field that explores the histories, technologies and social and cultural contexts of a range of contemporary media forms, including film, video, television, print, the Internet and other electronic means of communication. Media studies at The Claremont Colleges presents students with an integrated approach to media production and the critical study of the media, seeking to understand the present state of media practices through an examination of their historical and technological development, an analysis of their genres and a rigorous investigation of the theoretical approaches that have been brought both to the creative practices of media producers and the critical practices used by contemporary scholars.

Production is a key element of the Media Studies Major, but the mode of production studied at The Claremont Colleges is not oriented toward traditional narrative film or television, or toward commercial models of new media; rather, the major stresses "independent" narrative forms, documentary, video and digital art and community-based and activist media. Media studies also understands critical scholarship as a form of media practice, seeking to confront not only the ways that the media construct the contemporary cultural environment, but also the ways in which we, as producers and consumers, are all constituted by the same cultural formations that we seek to challenge. Above all, the major seeks to explore media from a perspective that eliminates traditional boundaries between disciplines and between media theory and media production, thus illuminating new ways of seeing, thinking and communicating in the world.

[3] On leave 2009-10