Drexel University

Department of Mathematics

Annual Report

2016-2017
DEPARTMENT DIRECTORY

Department Leadership
Administration
Faculty
Visiting Faculty
Adjunct Faculty
Teaching Assistants and Research Assistants

DEPARTMENT LEADERSHIP

Shari Moskow, PhD  Department Head; Professor of Mathematics
J. Douglas Wright, PhD Associate Department Head; Associate Professor of Mathematics
Ronald Perline, PhD Associate Department Head; Associate Professor of Mathematics

ADMINISTRATION

Paige Chmielewski, Undergraduate Program Coordinator
Kenneth Hemphill, Budget Coordinator
Gene Phan, Computer Specialist
Sobha Philip, Graduate Program Manager (Math Resource Center)
Amy Tiernan, Program Assistant (Math Resource Center)
FACULTY MEMBERS

Left to Right:
David Ambrose, PhD (Duke University)
Jason Aran, MS (Drexel University)
Jonah Blasiak, PhD (University of California, Berkeley)
Robert Boyer, PhD (University of Pennsylvania)

Left to Right:
Patrick Clarke, PhD (University of Miami)
Daryl Falco, MS (Drexel University)
Raymond Favocci, MS (Drexel University)
Pavel Grinfeld, PhD (Massachusetts Institute of Technology)

Left to Right:
Anatolii Grinshpan, PhD (University of California, Berkeley)
Yixin Guo, PhD (University of Pittsburgh)
Andrew Hicks, PhD (University of Pennsylvania)
Pawel Hitczenko, PhD (Warsaw University)

Left to Right:
Robert Immordino, MS (Drexel University)
Dmitry Kaluzhnyi-Verbovetskyi, PhD (Kharkov National University)
Hwanyong Lee, PhD (University of Utah)
Georgi Medvedev, PhD (Boston University)

Left to Right:
Jennifer Morse, PhD (University of California, San Diego)
Morna Mozef, MS (Drexel University)
Oksana Odintsova, PhD (Omsk State University)
Dimitri Papdopoulos, Ed.D. (Drexel University)

Left to Right:
Joel Pereira, PhD (University of North Carolina)
Marci Perlstadt, PhD (University of California, Berkeley)
Adam Rickert, MS (Drexel University)
Eric Schmutz, PhD (University of Pennsylvania)
FACULTY MEMBERS

Left to Right:
Li Sheng, PhD (Rutgers University)
Gideon Simpson, PhD (Columbia University)
Xiaoming Song, PhD (University of Kansas)
Jeanne Steuber, MS (Boston University)

Left to Right:
Kenneth Swartz, PhD (Harvard University)
Vaishalee Wadke, MS (Columbia University)
Richard White, MS (St. Joseph’s University)
Hugo Woerdeman, PhD (Vrije University, Amsterdam)

Left to Right:
Dennis Yang, PhD (Cornell University)
Thomas Yu, PhD (Stanford University)
Matthew Ziemke, PhD (University of South Carolina)

VISITING FACULTY MEMBERS

Left to Right:
Ilker Colak, PhD, (Universitat Autonoma de Barcelona)
Anna Pun, PhD (University of Pennsylvania)
Jian Song, PhD

ADJUNCT FACULTY

Left to Right:
John Coppola, MS (Widener University)
Harold Gilman, MS (Temple University)
June Gordon, MS (Drexel University)
Boris Kheyfets, PhD (Drexel University)

Left to Right:
Elana Koublanova, PhD (Leningrad State University)
Leo Lampone, PhD (Drexel University)
Brianna Pezzato, ME (Millersville University)
Patricia Henry Russell, MS (Drexel University)
ADJUNCT FACULTY

Left to Right:
Valerie Sarris,
Yun Yoo, PhD (Drexel University)
Sergio Zefelippo, MA (Villanova University)
Yihong Zhang, PhD (University of Alabama)
TEACHING ASSISTANTS AND RESEARCH ASSISTANTS

Left to Right:
Myles Akin, Nathan Anderson-Stahl, Charles Burnette, Joshua Carmichael

Left to Right:
Paul Reine Kennett Dela Rosa, Timothy Faver, Zachary Gaskill, Benjamin Grossmann

Left to Right:
Benjamin Irwin, Joshua Jackson, Elisabeth Johnson, Felix Jones

Left to Right:
Amanda Lohss, Alexander Onderdonk, Taylor Pangburn, Sarah Rody

Left to Right:
Patrick Shields, Leonard Stevenson, David Sulon, Daniel Summers

Left to Right:
James Thomas, Aleksandr Yaroslavskiy
DEPARTMENT OF MATHEMATICS TENURE, PROMOTION AND AWARDS

Tenure and Promotion to Associate Professor
Patrick Clarke, PhD, Department of Mathematics

Promotion to Professor
Dmitry Kaliuzhnyi-Verbovetskyi, PhD, Department of Mathematics
Georgi Medvedev, PhD, Department of Mathematics

Promotion to Teaching Professor
Oksana Odintsova, PhD, Department of Mathematics

Promotion to Associate Teaching Professor
Raymond Favocci, Department of Mathematics
Hwan Yong Lee, PhD, Department of Mathematics
Jeanne Steuber, Department of Mathematics

Promotion to Assistant Teaching Professor
Dimitrios Papadopoulos, Department of Mathematics

2017 SERVICE RECOGNITION HONOREES

DR. GEORGI MEDVEDEV - 15 YEARS

DR. MARCI PERLSTADT—35 YEARS

DR. DOUG WRIGHT—10 YEARS

PAIGE CHMIELEWSKI - 10 YEARS
FACULTY GRANTS

**Ambrose, David**, National Science Foundation, DMS 1515849, Dynamics of Dispersive PDE, 2015-2018, $269,987

**Ambrose, David**, PI, and Co-PIs **Shari Moskow**, **Gideon Simpson**, **Xiaoming Song**, and **J. Douglas Wright**, National Science Foundation, DMS 1613965, 2016 Gene Golub Summer School at Drexel University, 2016-2017, $95,000

**Blasiak, Jonah**, National Science Foundation Grant, DMS 1600391, Tools for Positivity, 2016-2019, $195,000

**Guo, Yixin**, National Science Foundation, DMS 1226180, Closed-loop Deep Brain Stimulation, Synchrony breaking and Chimera State, 2012-2016, $164,996

**Hitczenko, Pawel**, Simons Foundation, Collaborative research in Combinatorics and Probability, 2011-2016, $35,000

**Hitczenko, Pawel**, Drexel Scholarly and Creative Award, 2016-2017, $4,060

**Medvedev, Georgi**, National Science Foundation, DMS 1412096, Dynamics of Large Networks, 2014-2017, $150,000

**Morse, Jennifer**, National Science Foundation, Combinatorics in algebra, geometry, and physics, 2013-2016, $290,000

**Morse, Jennifer**, National Science Foundation, Combinatorics of Macdonald polynomials and Schubert calculus, 2016-2019, $285,000

**Moskow, Shari**, National Science Foundation, Heterogeneous Optical Media: Boundary Effects, Spectral Properties and Inversion, 2017-2020, $339,999


**FACULTY GRANTS**

**Moskow, Shari**, Timed for a Successful Career: NSF/AWM Travel Grants for Women in the Mathematical Sciences 2016-2019, $432,687

**Simpson, Gideon**, National Science Foundation, DMS 1409018, Computational and Analytical Challenges in Nonlinear Dispersive Wave Equations, 2014-2017, $146,118


**Woerdeman, Hugo**, Simons Foundation, Collaborative grant, The multivariable Schur class and determinantal representations, 2015-2020, $35,000


**Yu, Pok Yin Thomas**, National Science Foundation, DMS 1522337, New Developments in Geometric and Multiscale Numerical Methods, $230,000, 2015-2018

**FACULTY PUBLICATIONS**


Burnette, Charles and Eric Schmutz, Representing random permutations as the product of two involutions, Online Journal of Analytic Combinatorics, 11(6), 2016


Clarke, Patrick, Dual fans and mirror symmetry, Advances in Mathematics, p. 902-933, 2016


Guo, Yixin and Aijun Zhang, Existence and Nonexistence of Traveling Pulses in a Lateral Inhibition Neural Network. Discrete and Continuous Dynamical Systems - Series B, 21(6), 2016

**FACULTY PUBLICATIONS**


Ambrose, David, “Sufficiently strong dispersion removes ill-posedness in truncated series models of water waves,” BIRS Workshop on Theoretical and Computational Aspects of Nonlinear Surface Waves, Banff International Research Station for Mathematical Innovation and Discovery, Banff, Alberta, November 2016, Invited

Ambrose, David, “On vortex sheets and mean field games,” Oregon State University, Corvallis, Oregon, November 2016. Invited


Ambrose, David, “Convergence of a boundary integral method for 3D interfacial flow with surface tension,” CSCAMM Workshop on Mixing and Mixtures in Geo- and Biophysical Flows, University of Maryland, College Park, MD, May 2016, Invited

Ambrose, David, “Ill-Posedness of truncated series models of water waves,” 2nd KUMU Conference on PDE, Dynamical Systems, and Applications, University of Missouri, Columbia, MO, April 2016, Invited

Ambrose, David, “Traveling waves in interfacial fluid dynamics with multi-valued height,” PDE & Analysis Seminar, University of Pittsburgh, Pittsburgh, PA, April 2016, Invited

Ambrose, David, “A convergent boundary integral method for 3D interfacial flow with surface tension,” Analysis and Applied Mathematics Seminar, University of Illinois at Chicago, Chicago, IL, April 2016, Invited
FACULTY PRESENTATIONS


Hitzcenko, Pawel, “On the game of memory,” Workshop on Probabilistic and Analytic Combinatorics held at the BIRS Center, Banff, Canada, October 2016, Invited


Kaliuzhnyi-Verbovetskyi, “Integrability of Free Noncommutative Functions,” CIMI workshop on noncommutative functions and complex analysis, University of Toulouse, France, October 2016


Morse, Jennifer, “Combinatorics of affine Schubert calculus,” Southeastern Lie Theory Workshop, Charlottesville, VA May 2016


Medvedev, Georgi, Gene Golub SIAM Summer School on Stochastic Differential Equations, Drexel University, Philadelphia, PA, July 2016 Invited


**FACULTY PRESENTATIONS**

**Medvedev, Georgi,** Workshop on Synchronization and Oscillators with Generalized Coupling, University of Exeter, Exeter, UK, April 2016, Invited

**Medvedev, Georgi,** MBI Workshop on Generalized Network Structures and Dynamics, Ohio State University, March 2016, Invited

**Medvedev, Georgi,** MBI Workshop on Dynamics in Networks with Special Properties, Ohio State University, January 2016, Invited

**Moskow, Shari,** Invited minisymposium speaker, ” Equivalence of Galerkin methods and spectrally matched grids.”, Model Reduction in Inverse Problems, SIAM Annual meeting, Boston, MA, July 2016.

**Moskow, Shari,** “Homogenization of a Transmission Problem,” Oberwolfach Workshop on Inverse Scattering, Oberwolfach, Germany, September 2016, Invited

**Moskow, Shari,** “Homogenization of a Transmission Problem,” Workshop on homogenization theory, Corsica, France, November 2016, Invited

**Moskow, Shari,** “Inverse Problems: Determining the Equation from the Solution,” Haverford College, Haverford, PA, November 2016, Invited

**Pok Yin Thomas Yu** “Subdivision Methods of Biomembranes”- SIAM Conference on Industrial and Applied Geometry, Pittsburg, PA, July 2017


**Simpson, Gideon,** “Mathematical Formalisms for Molecular Dynamics” colloquium at University of Pennsylvania, Philadelphia, PA, March 2016

**FACULTY PRESENTATIONS**

**Simpson, Gideon,** “Stochastic Processes and Diffusive Molecular Dynamics” SIAM Conference on Mathematical Aspects of Materials Science minisymposium on Computational Methods for Materials Science, Philadelphia, PA, May 2016


**Woerdeman, Hugo,** “Rational Schur-Agler functions on polynomially-defined domains,” International Workshop Operator Theory and Analysis, St. Louis, MO July 2016, Invited

**Woerdeman, Hugo,** “Rational Schur-Agler functions on polynomially-defined domains,” Analysis Seminar, Department of Pure Mathematics, University of Waterloo, Waterloo, ON, Canada, September 2016

**Woerdeman, Hugo,** “The 2xM separability problem investigated via semidefinite programming and normal completions,” Quantum Information and Computation Theory Seminar, Institute for Quantum Computing, University of Waterloo, Waterloo, ON, Canada, December 2016

**Wright, J. Douglas,** “Overhanging traveling gravity capillary waves,” Joint Mathematical Meetings, Seattle, WA, January 2016


**Xiaoming Song** “Admission Control for Multidimensional Workload Input with Heavy Tails and Fractional Ornstein-Uhlenbeck Process” - Poster Presentation & Seminar on “Stochastic Processes”, University of Maryland, March 2016

**Xiaoming Song** “A Mathematical Model of file Uploads and Download”-Dean’s Seminar, Drexel University, April 2016

**Xiaoming Song** “An Implicit Numerical Scheme for a Class of BDSDEs”- SIAM Conference on Control and its Applications, July 2017
EDITORIAL POSITIONS

Ambrose Division Editor of Journal of Mathematical Analysis and Applications

Hitczenko, Pawel, Editorial Board Member, Open Journal of Discrete Mathematics

Kaliuzhnyi-Verbovetskyi, Dmitry, Associate Editor, Journal Complex Analysis and Operator Theory

Morse, Jennifer, Managing editor, Journal of Combinatorics

Woerdeman, Hugo J., Associate Editor, Indagationes Mathematicae

Woerdeman, Hugo J., Associate Editor, Annals of Functional Analysis’
**FACULTY APPOINTMENTS & CONFERENCE ORGANIZATIONS**


Ambrose, David, co-organizer, Summer school on Mean Field Games and Applications, University of California, Los Angeles, Los Angeles, CA, June 2018

Blasiak, Jonah, scientific committee member, Mid-Atlantic Algebraic Geometry and Combinatorics Workshop, Drexel University, Philadelphia, PA, April 2016

Hitczenko, Pawel, program committee member, Meeting on Analytic Algorithmics and Combinatorics, New Orleans, LA, January 2018

Morse, Jennifer, executive officer, Formal Power Series and Algebraic Combinatorics, Vancouver, Canada, July 2016

Morse, Jennifer, scientific committee member, Mid-Atlantic Geometry & Combinatorics Conference, Drexel University, Philadelphia, PA, May 2016


Simpson, Gideon, co-organizer of workshop, “From the Grain to the Continuum: Two Phase Dynamics of a Partially Molten, Polycrystalline Aggregate,” Isaac Newton Institute for Mathematical Sciences, University of Cambridge, Cambridge, UK, April 2016

**FACULTY APPOINTMENTS & CONFERENCE ORGANIZATIONS**

**Woerdeman, Hugo J.**, member of the scientific organizing committee, 2016 International Linear Algebra Society (ILAS) meeting, Leuven, Belgium, July 2016


**Woerdeman, Hugo J.**, Member of the International Program Committee, 2016 International Symposium on the Mathematical Theory of Networks and Systems (MTNS), Minneapolis, MN July 2016


**Woerdeman, Hugo J.**, board member, International Research Center for Tensor and Matrix Theory of Shanghai University

**Woerdeman, Hugo J.**, vice president, Steering Committee, International Workshop on Operator Theory and its Applications

**Woerdeman, Hugo J.**, vice president, International Linear Algebra Society

**PHD DEGREES AWARDED**

Shunlian Liu: Well-Posedness of Hydroelastic waves and their truncated series models—Advisor: Dr. David Ambrose

Amanda Lohss: Tableaux and Asymmetric Simple Exclusion Process—Advisor: Dr. Pawel Hitczenko

Charles Burnette: Factoring Permutations into the Product of Two Involutions: A Probabilistic, Combinational, and Analytic Approach. Advisor: Eric Schmutz

Sarah Rody: Vector Fields, Eigen surfaces, and Prescribed Curvature in Optical Design—Advisor: Dr. Andy Hicks

**TEACHING AWARDS**

Teaching Assistant Excellence, Honorable Mention, Charles Davis Burnette, Jr., PhD, Mathematics, College of Arts and Sciences

**DREXEL MATH GRADUATE SIAM PRESENTATIONS**

**DREXEL STUDENT CHAPTER OFFICERS**

President - Leonard Stevenson  
Vice President - Joshua Jackson  
Treasurer - Dan Summers  
Secretary - Shunlian Liu

**FALL 2016**

- September 30, 2016: Leonard Stevenson Drexel University Integrating First Order NC Functions
- October 14, 2016: Ben Grossman Drexel University Geometry and Topology of 2x2 and 3x3 Matrices
- October 28, 2016: Ben Grossman Drexel University Random Matrix Theory Over Finite Fields
- November 4, 2016: Kennett Dela Rosa Drexel University Jordan Canonical Form of an S-orthogonal Matrix Based on the Properties of its Householder Vectors
- November 11, 2016: Timothy Faver Drexel University Elements of the Mathematical Theory of Waves
- November 18, 2016: Dan Summers Drexel University Quiver Representations and the Path Algebra of a Quiver

**DECEMBER 2016**

December 2, 2016: Leonard Stevenson Drexel University Generation of NC Functions

**WINTER 2017**

- January 20, 2017: Leonard Stevenson Drexel University Generation of NC Functions

**SPRING 2017**

- April 19, 2017: Ben Grossman Drexel University Fractional Minimal Rank of Matrices
- April 26, 2017: Epsilon Talks: Benjamin Irwin / Nathan Anderson-Stahl Drexel University Moore Smith Convergence / Baire Category Theorem
Hermite Interpolation and Approximation in Manifolds

November 14, 2016
Speaker: Caroline Moosmüller, Institute of Geometry, TU Graz

Finite Element Scheme For Ericksen Model w/ Colloidal Effects and External Fields

February 6, 2017
Speaker: Shawn Walker, PhD, Louisiana State University

Graphs, Groups, and the Cantor Set

May 1, 2017
Speaker: Katie Haymaker, Villanova

Flat Curves

May 14, 2017
Speaker: Joel Langer, Case Western Reserve University

The Space of Soap Bubbles

May 22, 2017
Speaker: Rob Kusner, U Mass Amherst
**COMBINATORICS & ALGEBRA GEOMETRY SEMINARS**

**Combinatorial stability and representation stability**  
*September 22, 2016*  
Thomas Church, IAS/Stanford

**Applying Representation Theory to Random Walks**  
*September 29, 2016*  
Angela Hicks, Lehigh University

**Using Grassmann (or anti-commuting) variables in Combinatorics: Lindstrom-Gessel-Viennot lemma and Schur functions**  
*October 13, 2016*  
Adrian Tanasa, University of Bordeaux

**Peak and descent polynomials**  
*October 27, 2016*  
Alexander Diaz-Lopez, Swarthmore College

**A Grassmann Algebra for Matroids**  
*November 3, 2016*  
Noah Giansiracusa, Swarthmore College

**K-Theory and Monodromy of Schubert Curves**  
*November 10, 2016*  
Jake Levinson, Michigan

**Splines, GKM theory, and non-GKM spaces**  
*November 17, 2016*  
Elizabeth Drellich, Swarthmore College

**An Introduction to Symplectic Duality**  
*December 1, 2016*  
Justin Hilburn, Penn

**Decompositions of Grothendieck polynomials**  
*January 26, 2017*  
Oliver Pechenik, Rutgers University
COMBINATORICS & ALGEBRA GEOMETRY SEMINARS

Kohnert tableaux and quasi-key polynomials
February 2, 2017
Dominic Searles, USC

Rook and Wilf equivalence of integer partitions
February 16, 2017
Jonathan Bloom, Lafayette College

Colorings and Positivity
February 28, 2017
Per Alexandersson, Penn and KTH

Stable bases and q-Fock space
March 2, 2017
Eugene Gorsky, UC Davis

Quantum cohomology of Grassmannians via Landau-Ginzburg potentials and combinatorics
March 16, 2017
Kaisa Taipale, Univ. of Minnesota

Conjugacy Growth Series for Wreath Products of Finitary Permutation Groups
March 30, 2017
Madeline Locus, Emory

Genus Two analogue of A_1 spherical DAHA
April 13, 2017
Semeon Artamonov, Rutgers University

Puzzles and Cohomology of the Cotangent Bundle on Projective Space
April 20, 2017
Voula Collins, University of Connecticut

Noncommutative Schur functions
May 5, 2017
Sergey Fomin, University of Michigan

Equivariant Pieri Rules for Isotropic Grassmannians
May 11, 2017
Vijay Ravikumar, Chennai Mathematical Institute
ANALYSIS SEMINAR

Universality of the Stochastic Bessel Operator
September 30, 2016
Patrick Waters, Temple University

Antiderivatives of First Order NC Functions, Part I
October 14, 2016
Leonard Stevenson, Drexel University

Antiderivatives of First Order NC Functions, Part II
October 22, 2016
Leonard Stevenson, Drexel University

Zeros of Linear Combinations of Partial Sums of the Exponential Function I
October 28, 2016
Joe Erickson, Drexel University

Sharp estimates for some multilinear oscillatory integrals.
November 11, 2016
Lechao Xiao, U Penn

Volumes of Projections of Parallelotopes
November 18, 2016
Anatolii Grinshpan, Drexel University

Zeros of Linear Combinations of Partial Sums of the Exponential Function II
December 2, 2016
Joe Erickson, Drexel University

Spencer’s “Six Standard Deviations” Theorem
January 27, 2017
Anatolii Grinshpan, Drexel University

Generation of NC Functions
February 3, 2017
Leonard Stevenson, Drexel University

Quantum Markov Semigroups and their Generators
February 10, 2017
Matthew Ziemke, Drexel University
ANALYSIS SEMINAR

Determinant Theory in Finite Factors and Extensions of Hadamard’s Inequality

April 14, 2017
Soumyashant Nayak, UPenn

Complete Spectral Sets and Numerical Range

April 21, 2017
Hugo Woerdeman, Drexel University

Fractional Minimal Rank

April 28, 2017
Ben Grossman, Drexel University

Traveling Waves in Mass and Spring Dimer FPUT Lattices

May 5, 2017
Tim Faver, Drexel University

Quantum Algorithm for Multivariate Polynomial Interpolation

May 12, 2017
Jianxin Chen, University of Maryland

The Mean Field Limit of the Kuramoto Model on Random Graphs

May 19, 2017
Georgi Medvedev, Drexel University
Estimating Discrete Corrections to a Mesoscale, Free-Boundary Model of Crystal Growth

November 17, 2016
Joshua Schneider, UCLA

Approximate Global Minimizers to Pairwise Interaction Problems by a Convex/Non-Convex Energy Decomposition

October 20, 2016
David Shirokoff, NJIT

Modeling Waves: Towards Understanding the Role of Nonlinearity

October 27, 2016
Katie Oliveras, Seattle University

Examining Androgen-Mediated Disruption of the Ovulatory Cycle Through Mathematical Modeling

October 6, 2017
Erica J. Graham, Bryn Mawr


October 22, 2017
Benjamin Seibold, Temple University

Can I Borrow a Feeling?

November 3, 2017
Scott Rome, Cadent

November 16, 2017
Quinn Morris, Swarthmore

December 1, 2017
Georgi Medvedev, Drexel University
PDE & APPLIED MATHEMATICS SEMINAR

Accelerated Sampling and Sensitivity Analysis of Multiscale Reaction Networks

January 19, 2017
Ting Wang, University of Delaware

Existence of Propagators for Coulomb-Like Potentials in Density Functional Theory

February 23, 2017
Eric Stachura, Haverford College

Almost Sure Scattering for the 4D Energy-Critical Defocusing Nonlinear Wave Equation with Radial Data

April 6, 2017
Ben Dodson, John Hopkins University

Transform Analysis for Markov Processes and its Applications in Finance

April 13, 2017
Chihoon Lee, Stevens Institute of Technology

Path-Differentiability BSDE driven by a Continuous Martingale

April 20, 2017
Kihun Nam, Rutgers University

High-Order Finite-Difference Time-Domain Simulation of Electromagnetic Waves at Complex Interfaces Between Linear Dispersive Media

May 4, 2017
Michael Jenkinson, RPI
HONORS DAY

Robert J. Bickel Scholarship

Presented in honor of Robert J. Bickel who was a member of the Mathematics Department from 1946 to 1987.

Patrick Brogan
Bradford Green
Patrick Lombardo
Preetham Mohan

Yassine Terrab
Sanjana Venkat
Jadzia Lynn Watsey
Jacob Woods

Frank H. M. Williams Prize in Mathematics

Presented annually in recognition of academic achievement in mathematics.

Yilin Yang

MATH RESOURCE CENTER

The mission of the Math Resource Center is to assist the undergraduate students currently enrolled in courses offered by the Department of Mathematics.

The Student Visits graph illustrates the visits to the MRC over the different terms during the year for a total of 8,194.

The Math 102 students visited the center the most and was followed by MATH 122.

The Math Resource Center moved to the Library Learning Terrace in the winter quarter due to construction in the Korman Center. The Learning Terrace is located on 33rd and Race Street under Race Hall. Over the course of the year the MRC is always available to students currently enrolled in a mathematics course, however the hours of operation can vary. During Fall, Winter, and Spring terms the MRC is open Monday to Thursday from 10am-7pm and on Fridays from 10am-4pm. Over the Summer the MRC is open Monday to Thursday from 12pm-5pm. The MRC is also open during Finals Weeks.