Portland State University is an urban, comprehensive, research university. It is the largest university in Oregon, with over 28,000 students and more than 200 undergraduate, master’s, and doctoral degrees. The campus is centered on the beautiful, tree-lined Park Blocks in downtown Portland, close to museums, cultural events, shopping, and walks along the Willamette River or in old-growth Forest Park. A variety of housing options convenient to campus are available for both faculty and students.

**Portland**

Located in the heart of the Pacific Northwest, “America’s Best Big City” is a scenic place offering the perfect combination of urban sophistication, small town accessibility, and the great outdoors. Portland is ranked as one of the top cycling cities in the United States and an accessible public transportation system links the metro area’s neighborhoods, restaurants, parks, shopping districts, and sports venues. In just over an hour drive from Portland, you can hit the beach on the Oregon Coast, hike in Eastern Oregon’s High Desert, enjoy world-class windsurfing in the Columbia Gorge, and ski year-round on Mt. Hood.

**PhD in Mathematical Sciences**

The PhD in mathematical sciences at Portland State University is a scholarly degree aimed at developing versatile researchers who are trained in mathematics or statistics, are culturally literate in at least one other discipline, and who can communicate effectively with people in other professional cultures. The program is flexible, learner driven, and provides participants with a structured environment, professional guidance, and advising support. The candidates are prepared to be experts in mathematics and/or statistics, yet conversant with at least one other discipline, by dedicating approximately 25 percent of the credit hour requirements to professional development, cross-disciplinary or industrial experiences, and allied area coursework.

The program accommodates a broad range of multidisciplinary partners including computer science, engineering, physics, chemistry, biology, economics, finance, urban studies and planning, and public health, epidemiology and others. The courses are chosen with the assistance of the allied area adviser to form a coherent area of study directly relevant to the student's goals. This experience is intended to be reflected in the thesis and furthered in a cross-disciplinary seminar, internship, or practical experience.

**Course Requirements**

Students whose highest degree in mathematics or related fields is a bachelor’s degree: a minimum of 99 credit hours beyond a bachelor’s degree distributed as follows:

- Approved graduate level courses: 63 credits. Out of these:
  - Mathematics and Statistics courses of which at least 10 courses are at the 600 level: 45 cr. minimum
  - Allied area (4 course minimum at the 500 and 600 level): 15 cr. minimum
- Doctoral seminar/Internship (Math 607): 9 credits
- Dissertation (Math 603): 27 credits

Students entering with a master’s degree in mathematics or related fields: A minimum of 72 credit hours beyond a master’s degree distributed as follows:

- Approved graduate level courses: 36 credits. Out of these:
  - Mathematics and Statistics courses at the 600 level: 18 cr. minimum
  - Allied area (4 course minimum at the 500 and 600 level): 15 cr. minimum
- Doctoral seminar/Internship (Math 607): 9 credits
- Dissertation (Math 603): 27 credits

**Financial Support**

The department has a limited number of Graduate Assistantships available on a competitive basis. Applicants will be asked during the online departmental application process to indicate if they are interested in receiving a graduate assistantship. Additional information can be found at www.pdx.edu/math/graduate-teaching-assistantships.
Mathematical Sciences PhD

Core Faculty

Steve Bleiler PhD (1981) University of Oregon
Research interests: Game theory, topology, geometry, financial mathematics, combinatorics, optimization under uncertainty.

John Caughman PhD (1998) University of Wisconsin
Research interests: Algebraic combinatorics, algebraic graph theory.

Brad Crain PhD (1972) Oregon State University
Research interests: Mathematical statistics, probability, population size.

Dacian Daescu PhD (2001) University of Iowa
Research interests: Data assimilation, sensitivity analysis, parameter estimation, numerical optimization, inverse problems.

Ian H. Dinwoodie PhD (1990) Northwestern University
Research interests: Categorical data, network traffic, Monte Carlo methods, large deviations.

Marek Ełżanowski PhD (1975) Polish Academy of Sciences
Research interests: Continuum mechanics, defects, elastic cavitation, applied differential geometry.

Brittany A. Erickson PhD (2010) University of California, Santa Barbara

Robert Fountain PhD (1985) University of New Mexico
Research interests: Mathematical and applied statistics (estimation theory, sampling theory, multivariate analysis).

Derek Garton PhD (2012) University of Wisconsin—Madison
Research interests: Number Theory and Arithmetic Dynamics.

Jay Gopalakrishnan PhD (1999) Texas A&M University
Research interests: Numerical analysis and scientific computation, especially for partial differential equations and their application to physical, biological, and engineering systems.

Research interests: Probabilistic games, statistical learning, information theory, statistical modeling in computer vision, medical image processing, and computational neurology.

Bin Jiang PhD (1999) University of California, Santa Barbara
Research interests: Computational electromagnetism, numerical simulation in nanoscale optics.

Jong Sum Kim PhD (1999) University of Iowa
Research interests: Survival analysis, nonparametric and semiparametric models, variance estimation, biostatistics.

Subhash Kochar PhD (1979) Panjab University
Research interests: Mathematical statistics, reliability theory, stochastic orders, nonparametric methods, order restricted inference.

Gerardo Lafferriere PhD (1986) Rutgers University
Research interests: Mathematical control theory, hybrid systems, mathematical biology.

Paul Latiolais PhD (1984) Tulane University
Research interests: Topology, algebra, combinatorial group theory.


Joyce O’Halloran PhD (1979) University of Washington
Research interests: Algebra, control theory.

Jeffrey Ovall PhD (2004) University of California, San Diego
Research Interests: Numerical methods for partial differential equations and integral equations, with emphasis on treatment of singular solutions.

Serge Preston PhD (1978) Steklov Institute of Mathematics, USSR
Research interests: Differential geometry, variational calculus, continuum mechanics, thermodynamics.

Research interests: Survival analysis, rank based procedures, biostatistics, ROC curve-based algorithms for identifying and combining multiple markers.

Research interests: Computational Mathematics, numerical Linear Algebra and Multilevel Methods, with applications to flow in reservoir simulations, electromagnetism, and large-scale discrete networks.

J. J. P. (Peter) Veerman PhD (1986) Cornell University

Admissions

The Mathematical Sciences PhD program offers rolling admissions which follow the University’s admission priority processing deadlines. Please note that the following dates are priority filing dates only. Applications will still be accepted after these dates.

<table>
<thead>
<tr>
<th>Term</th>
<th>Deadline</th>
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<tr>
<td>Fall</td>
<td>April 1</td>
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<tr>
<td>Winter</td>
<td>September 1</td>
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<tr>
<td>Spring</td>
<td>November 1</td>
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<tr>
<td>Summer</td>
<td>February 1</td>
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Applicants seeking a graduate assistantship should apply to both the department and the university by February 1st for the following academic year.

Applicants will be expected to have completed an undergraduate degree with the equivalent of a bachelor’s degree in Mathematics or Statistics containing an adequate background in Computer Science. Find out more about admission requirements at www.pdx.edu/math/phd-mths-application-instructions

For More Information

The Fariborz Maseeh Department of Mathematics and Statistics at Portland State University offers many courses in mathematics, statistics and mathematics education. For more information please visit www.pdx.edu/math, or call 503-725-3621.