Applied Mathematics and Statistics

Chair: Eric Forgoston

The Department of Applied Mathematics and Statistics is committed to the study and development of mathematical disciplines in order to solve real-world problems that society is currently facing. The curriculum emphasizes the synthesis of mathematics, statistics, and computation to solve a wide variety of relevant problems. There are many opportunities for students to perform research in the following branches of modern applied mathematics: Data-Driven Analysis: the science of using mathematics, statistics, and computation to extract knowledge from data; Financial Mathematics: the science of modeling and analyzing financial markets; Fluid Mechanics: the science of fluids and gases at rest and in motion; Mathematical Biology: the science of modeling and analyzing biological processes; Nonlinear Dynamical Systems: the science of systems governed by a consistent set of laws over time; Scientific Computing: the science of using computers to model complex systems; Statistics: the science of extracting information from data.

Applied Mathematics and Statistics are interdisciplinary fields of study and research, linking mathematics with biology, chemistry, computer science, engineering, environmental science, ecology, economics, finance, physics, sustainability science and many other areas of application. A career in applied mathematics and statistics is more than just crunching numbers. Instead, it involves solving real-world problems and making an impact in the world. Companies are hiring more and more applied mathematicians and statisticians every year. In fact, the Bureau of Labor Statistics estimates that over the next ten years there will be about a 30% increase in high-paying jobs for individuals with applied mathematics and statistics degrees. In short, applied mathematics and statistics allows you to contribute to society, have fun working in a wide variety of fields, satisfy your curiosity by asking questions and finding answers, and earn lots of money.

The Department of Applied Mathematics and Statistics offers a BS degree in Applied Mathematics and Statistics, along with an MS degree in Applied Mathematics and an MS degree in Statistics. Applied Mathematics and Statistics are inherently collaborative and interdisciplinary subjects. As such, applied mathematicians and statisticians find careers in numerous industries and business areas including aerospace, analytics and forecasting, chemical or pharmaceutical manufacturing, communications services, computer information and software, energy systems, finance, insurance companies, and medical devices, to name just a few. The BS degree provides the broad base of knowledge in mathematics, statistics, and computing that is needed to work in these industries. The MS degrees provide an additional layer of knowledge for individuals seeking to advance their career or seeking entry into a PhD program.

Undergraduate

• Applied Mathematics and Statistics (B.S.) (http://catalog.montclair.edu/programs/applied-math-and-statistics-bs/)

Graduate

• Applied Mathematics (M.S.) (https://montclair-curr.courseleaf.com/programs/applied-mathematics-ms/)

• Statistics (M.S.) (https://montclair-curr.courseleaf.com/programs/statistics-ms/)

• Statistics (M.S.) (Combined B.S. Mathematics/M.S.) (https://montclair-curr.courseleaf.com/programs/statistics-ms-combined-bs-math-ms/)