先端数物科学専攻 数理科学カリキュラム

先端数理科学を目指す
Pursue the Forefront of the Mathematical Sciences

数理科学とは
What is Mathematical Sciences?

「数理科学」とは、数学および数学と諸科学との関係領域に構築された学問分野の総称です。数理科学の研究活動においては、数学理論（いわゆる純粋数学）の探究とともに、現実現象の記述手法（抽象化・定式化・モデル化）の開発も重要なテーマとなります。

1981年、慶應義塾は他大学にさきがけて、日本で最初の数理科学科を設置しました。それから40余年を経た今、数理科学はあらゆる科学技術を語る共通の言葉として、従来の理学・工学分野はもちろん、人工知能の理論的基盤から経済学の現象記述にまで至る広範囲の領域をカバーしています。

Mathematics is the common language for all the sciences. It probes beyond outward physical appearances to grasp the inner meaning of natural and social phenomena and deepens our understanding of the complexity of our world.

In 1981, Keio University established the Department of Mathematics with the goal of contributing to the progress of mathematics, through special mathematics, the sciences, and economics.

The research specialties of the graduate program in mathematics cover several areas in pure and applied mathematics and statistics, allowing students to work toward master's or doctoral degrees under close supervision. This distinctive feature of our department allows staff and students alike to experience being a part of the pinnacle of human achievement that is mathematics.

数理科学カリキュラムの研究・教育
Our Research and Education

数理科学カリキュラムでは、純粋数学、応用数学、統計科学を核とする多岐にわたる研究が行われており、スタッフは、微分方程式論、幾何学、確率・エルゴード理論、整数論、離散数学、計算数学、統計科学などの分野で、国内外に広く知られ、高い評価を得ています。最近では、分野を超えた共同研究も活発で、様々な研究が有機的に結びついた研究プロジェクトも成果を上げています。

数理科学カリキュラムのスタッフの指導を受け、所定の単位を取得し、学位論文の審査に合格すると、それぞれの興味や研究分野に応じて、修士課程の学生は修士（理学）または修士（工学）の学位を、博士課程の学生は博士（理学）または博士（工学）の学位を取得することができます。

The Curriculum of Mathematics and Mathematical Sciences offers graduate programs in mathematics, statistics, and information mathematics. - These programs are excellent preparation for post-graduate positions in industry, government, finance, teaching, or further studies in mathematical sciences.

Graduate programs for either master's degree or doctoral degree are offered. - Students can work for their master's and doctorate in either science or engineering, according to their program concentration and degree objectives. Our staff includes specialists in fields including differential equation theory, geometry, probability and ergodic theory, number theory, discrete mathematics, computational mathematics, and statistical sciences. Faculty members are qualified to supervise students' work as they work to complete their master's or doctoral degrees. Our curriculum distinguishes itself from competing programs by organically integrating these diverse fields to encourage creative research.