# MATHEMATICS college of arts + sciences



You will use it when you check the time—or the speed limit. Newton, Galileo, da Vinci, Fibonacci: They used it in a variety of disciplines, and we still feel the echo of their work today—because math is where everything starts. That's where you come in. Whether you want to work in aeronautics, electronics, finance, marketing, opinion analysis, insurance, accounting, automation, sales, teaching, or something else—math is your first step. You have the aptitude, but you need the tools to build your strengths into a career. And that's where we come in.

Possible Careers:

- Statistician
- Investment Banker
- Accountant
- Auditor
- Professor

ATTENDING LOYOLA means being in the heart of New Orleans. Our campus is located in the city's historic Uptown neighborhood, just a short drive from the Central Business District, the city's hub of innovation, creativity, and strategic thinking. You'll learn to hone your talents in the city named #1 new brainpower city in America and #1 best city in the U.S. for creative professionals.



## COURSES

In addition to our foundational mathematics core, you will also complete adjunct computation courses and choose electives tailored to the programs that interest you. Here's a sample of what you can expect to learn and do:

### **Calculus** I

This is a beginning course in the calculus of one variable and analytic geometry. The concept of limits and their use in differential and integral calculus, max and min values of functions, and solving for areas and volumes are treated.

## Introduction to Differential Equations

This course examines the fundamental methods of solving elementary differential equations. Topics include exact solutions, series solutions, numerical solutions, and solutions using Laplace transforms.

### Linear Algebra

Linear algebra expands on topics introduced in Math A200 such as vector spaces, matrices, determinants, eigenvalues, linear functionals, bilinear forms, vector geometry, and their applications.

### **Math Probability**

This course introduces the theory of probability. Topics include combinatorial analysis, axioms of probability, discrete and continuous random variables, expectation, multivariate probability distributions, function of random variables, and basic limit theorems.

### Abstract Algebra I

This is a general survey course in the concepts of algebra treating number systems, groups, rings, domains, fields, matrices over a field, elements of Galois theory, and canonical forms.

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