Mathematics

Western’s Mathematics program helps you see the beauty in numbers, their relationships and how they help us build systems to extend our knowledge and capabilities.

What Is the Western Difference?

Western’s Mathematics Department has one of the most active student communities on campus.

You’ll enjoy a ready-made learning community, as well as many social and scholarly activities organized by the faculty.

In the fall, we host a welcome-back barbecue with a kickball game. In the winter, students attend the Pikes Peak Regional Undergraduate Mathematics Conference, where our seniors present their research projects. The high point of our spring social calendar is our annual banquet catered by the faculty.

At weekly math seminars, faculty members show what they are working on, and seniors present their research projects. In the summer, many of our students pursue internships or other advanced training.

Western has two new, cutting-edge programs. The Actuarial Science emphasis prepares students for the actuarial profession, ranked No. 4 in a 2014 report on the nation’s best jobs. Our Data Analytics minor combines Mathematics, Statistics, Economics and Computer Science to teach students how to find and analyze data, draw conclusions and make predictions.

Three of the top-four best jobs in the country are in the mathematics field, according to the 2014 Jobs Rated report — Mathematician (No. 1), Statistician (No. 3) and Actuary (No. 4).

Western’s Mathematics program is the second largest in Colorado, based on the number of Mathematics degrees awarded compared with total degrees awarded at Western.

Many of Western students participate in the Research Experience for Undergraduates program, a National Science Foundation initiative.

Students have earned summer internships in Biostatistics, a National Institute of Health initiative.

Calculus 3 students, for a senior research project, built parametric curves describing ski slopes and their likely paths.

More Information: 800.876.5309 | admissions@western.edu
What Skills Will I Learn?

In Mathematics, you’ll learn to:

• Analyze and then act on your analysis.
• Clearly communicate and understand complicated ideas.
• See patterns others will miss.

For your senior Mathematics research project, you will apply your knowledge to a single, challenging problem. Projects have included the Pythagorean theorem of baseball, matrix factorizations, modeling disease flow in a community, modeling predator-prey interactions, elliptical curve theory, diffusion-limited aggregation and analyzing voting protocols.

What Can I Do With My Degree?

Graduates have gone into the banking and insurance industries and done research in epidemiology and bioinformatics (an interdisciplinary field to study and process biological data). Graduates also have become teachers. If you want to teach, you will be in great demand. Many programs allow you to begin teaching while you complete your licensing requirements online.

Mathematics students also have earned master’s and doctoral degrees in math, engineering, geology and chemistry.

Those not working in the mathematics field say they use math every day in their work.

Meet Courtney McCullough

Courtney McCullough enjoyed studying math, but she had no idea what to do with her Mathematics degree.

At Western, however, students are on their professors’ radar, and one of McCullough’s professors got her thinking about a career as an actuary.

“The care the professors have for the students sets Western apart,” says the 28-year-old from Morrison, Colo. “I wouldn’t be where I am today if my professor hadn’t taken an interest in my career goals.”

After getting her bachelor’s degree, McCullough earned her master’s degree in Mathematics at Montana State University. Today, she is an actuary at Blue Cross and Blue Shield of Montana.

McCullough says she chose Western for the area’s outdoor opportunities. But Gunnison’s openness surprised her.

And different activities brought her different circles of friends.

“I had friends who weren’t the least bit outdoorsy,” McCullough says. “I had friends who never missed a powder day. And I had friends everywhere in between.”