Faculty highlights
Approximately 95% of Roanoke College faculty members hold the highest degrees in their fields. Courses are taught by professors, and the average class size is 18, ensuring that students receive one-on-one attention and develop strong working relationships with faculty. On a 1-5 scale, Roanoke students rate faculty at 4 for openness to questions in class.

Tenure track faculty hold Ph.D.s from prestigious institutions such as Yale University, Clemson University, State University of New York at Buffalo, University of Maryland, University of North Carolina, University of Virginia, North Carolina State University, Old Dominion University and Bowling Green State University.

Faculty members' specific areas of expertise vary greatly. Our math faculty includes experts in statistical sampling techniques, calculus, algorithms of search engine optimization, technology in the classroom, representation theory, mathematics of sports and genetic algorithms.

“What Roanoke College provided me was an umbrella and an opportunity . . . You get to create a reality of your own making, and it is molded and shaped by your professors, by your curriculum.”

John McAfee
Class of 1967
founder of McAfee VirusScan

“Our math graduates have been highly successful in graduate school. They have reported back that they are better prepared than most of their fellow grad students.”

Dr. Roland Minton
Professor of Math

www.roanoke.edu/math
Because of their unique training in problem-solving, Roanoke’s math majors are well-prepared for any technical field. Math majors develop strong critical thinking skills as they learn to break down complex problems into small pieces.

Mathematics majors at Roanoke take a common core of courses covering calculus, linear and abstract algebra and real analysis. Students choose additional coursework from a variety of offerings in theoretical and applied mathematics and in statistics.

Depending on the courses selected, the program can be tailored to provide excellent preparation for graduate study or for employment in any number of fields. Roanoke’s math department offers the following degree options:

- Major in mathematics (B.S. degree)
- Minor in mathematics
- Concentration in statistics

Firsthand Learning Opportunities

Research
Research projects provide students with opportunities to get practical experience and work closely with faculty members on individual projects. Roanoke has several programs for student research, some of which include scholarships or stipends. Among the programs are Summer Scholarships, the Undergraduate Research Assistants Program (known as URAP) and courses in independent study.

Recent areas of study have included:
- The mathematics of a tennis serve
- Modeling the AIDS epidemic in Cuba
- Particle swarm artificial intelligence
- Analysis of PGA golf statistics

Students present their research to audiences on campus, at regional mathematics and undergraduate research meetings and at national mathematics meetings.

Internships
Mathematics students complete internships with local companies and organizations as a way to gain experience with fields in which they may want to work. Faculty members frequently help students get connected with internship opportunities. Recent internships have been with Roanoke Gas Company, CMR Institute and television station WDBJ-7.

In the Classroom
Small class sizes allow students and faculty to work together. Faculty can identify students’ strengths and weaknesses, and students assume leadership roles in the classroom. Many of Roanoke’s math courses include group work, which helps students develop and retain knowledge of given material. Roanoke’s calculus course is unique in that it has a lab component, which is computer-intensive.

Another unique classroom opportunity is the Problem Solving Seminar. This course is held in the evening with more informal, student-led presentations. Participation develops skills that prepare students for the national Putnam exam in the fall and the Mathematical Contest in Modeling in the spring.

Constance Baker Jones
Class of 1966

“I think the tough curriculum in math and science thoroughly prepared me for the work load I had in law school.”

Amanda Coughlin, a student awarding a golfer while collecting research for her Summer Scholar project. Coughlin is determining, through analysis, the aspects of the game that have influenced her winning.

“Dr. Roland Minton illustrates the ‘spinning cube.’ He turns the illusion of a curved middle in the lab, students visualize the process with computer graphics and use vector projections to find an equation of the curved middle.”

Recent graduate school acceptances:
- Clemson University
- Cornell University
- Emory University
- George Washington University
- Georgetown University
- Indiana University
- Johns Hopkins University
- North Carolina State University
- University of Delaware
- University of Virginia
- Virginia Tech

Extracurricular activities
In addition to specific clubs for math students, the College hosts a number of extracurricular activities with which students are heavily involved. A campus tradition is the department’s annual Pi Day, held each year in March.

Other activities include entertaining guest speakers. Recent guests have included Laura Taalman and Art Benjamin. Taalman is one of the world’s experts on the mathematics of Sudoku, which was the subject of her talk. Benjamin gave his famous “mathemagics” talk, hosted a card trick workshop, was a guest lecturer in classes and led the campus in a week-long celebration of mathematics.

“A technical college would surely have given me a similar foundation in mathematics and statistics as I received at Roanoke College. However, without the writing and humanities courses, my work may never have wound up in Congress.”

Maria Cupples Hudson
Class of 1996

Sytems Analyst, Mathematica Policy Research

Organizations that have employed Roanoke math majors:
- Booz-Allen Hamilton
- CMR Institute
- James Madison University
- Mathematica Policy Research
- Merit Laboratories
- Motorola
- Roanoke Gas Company
- U.S. Bureau of Census
- University of Virginia