

Mathematics



CEDAR CREST COLLEGE

“As we enter the 21st century, there is an increasing demand for mathematicians in the workforce. Graduates with degrees in mathematics – especially women – have a wide array of job opportunities available to them from technological fields to teaching. Students who major in math are some of the best and brightest students at Cedar Crest and all of our math majors have found jobs in their field after graduation.”

Marie Wilde, Chair/Associate Professor
Business/Information Systems
Computer Science/Mathematics

The Mathematics Program at Cedar Crest College offers a wide range of courses designed both to develop mental discipline and logical thinking and to prepare students for a variety of math-related careers. Advanced courses are offered as a solid foundation for graduate study, for pre-professional examinations such as those given by the Actuarial Society and for employment in most public- and private-sector industries and teaching.

Students may earn either a B.A. or a B.S. in Mathematics. The major pairs naturally with many other disciplines to create exciting educational and professional opportunities. Cedar Crest math majors have combined their mathematical studies with economics, education, chemistry, computer science, biology, pre-law and the performing arts. The mathematician no longer sits behind a desk doing tedious calculations; she may be developing a mathematical model of a biological or chemical system, writing a computer program to control a large industrial process, piecing together animated computer graphics or teaching a discovery session in a high school algebra class. Jennifer Weinberg '02 presented a paper at the regional undergraduate mathematics conference. The paper was based on her research on the effects of the sociocultural climate of mathematics classrooms on participation and achievement in mathematics.

Recent Graduates Working in the Field

According to Department of Labor Statistics, a 1999 survey by the National Association of Colleges and Employers listed starting salary offers for mathematics graduates with a bachelor's degree at \$37,300 a year on average. The average annual salary for mathematicians employed by the Federal Government is over \$60,000 per year. Mathematicians are also frequently employed in the computer science field where the average starting salary reaches \$40,800, according to 1999 statistics. Cedar Crest math graduates have gone on to a variety of exciting careers. Examples include:

- Cynthia Sturtevant '94, Underwriter, CIGNA HealthCare
- Michelle Rehrig George '96, Systems Manager, IBM® Corporation
- Jennifer Jones Mease '97, Computer Programmer, Pentamation Enterprises, Inc.
- Denise Meixsell Laurito, '00, Computer Programmer, Software Consulting Services

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Curriculum

Requirements for Mathematics Major/Minor

Because of the importance of mathematics in many fields, Cedar Crest is committed to providing students with the preparation they need to become successful in their chosen career. Courses are designed to stress analytical skills and problem solving techniques. Course work in physics is also required for its examples of mathematical modeling and to promote an understanding of the physical universe, space, energy, and similar contemporary concerns.

Students majoring in mathematics must complete 30 credits plus competency in at least one computer language. Required courses include:

- MAT 141 Calculus I
- MAT 142 Calculus II
- MAT 211 Calculus III
- MAT 212 Calculus IV
- MAT 311 Linear Algebra
- MAT 316 Modern Algebra
- MAT 350 Advanced Calculus
- Physics 101
- Physics 102

Students may choose from the following mathematics electives:

- MAT 321 Numerical Analysis
- MAT 322 Discrete Mathematics
- MAT 324 Modern Geometry
- MAT 335 Introduction to Topology
- MAT 338 Number Theory
- MAT 339 Complex Variables

Education Co-Major

Cedar Crest offers an education co-major to prepare math majors who are interested in teaching for the challenges of secondary and elementary school classrooms. The teacher certification program in mathematics at Cedar Crest is approved by the Pennsylvania Department of Education and many math graduates have gone on to become successful teachers. Graduates who have entered the rewarding field of education include:

- Justina Viola, '99, Southern Lehigh School District
- Michelle Anderson, '98, Northampton Senior High School
- Elizabeth Allen, '97, Saucon Valley High School
- Denine Williams, '95, Allentown School District.
- Aileen Gula Yadush, '94, Northwestern Lehigh School District

Students also seeking a degree in education must consult that department and plan a program before registering for the sophomore year. Students seeking mathematics education certification must take:

- MAT 210 Probability and Statistics
- MAT 324 Modern Geometry

Requirements for the minor include six courses beginning with MAT 141 Calculus I.

Student Activities and Awards

Qualified students are invited to join **Kappa Mu Epsilon**, a national honor society for mathematics. There is a student chapter of the Mathematics Association of America, which sponsors speakers and programs in mathematical sciences and career preparation, provides community services to various organizations, and serves as a social and academic support group for majors.

The Paul V. Kunkel Scholarship is awarded by the department to an outstanding mathematics/computer science major at the end of her junior year at Cedar Crest, and the Kunkel Award is presented to an outstanding graduate in mathematics/computer science.

Please note that changes are occasionally made in program requirements. Schedules for course offerings are announced well in advance. The faculty works closely with students in program selection and scheduling.

Cedar Crest College complies with all applicable federal and state legislation and does not discriminate in educational programs or in employment on the basis of race, religion, national origin, age, gender, disability or sexual orientation.

For additional information about the mathematics major at Cedar Crest, call or write:

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