Mathematics & Computer Science

VIRGINIA WESLEYAN UNIVERSITY

JOAN P. BROCK SCHOOL OF MATHEMATICS AND NATURAL SCIENCES

Mathematics is at its heart the search for pattern or structure. It is an essential component of the liberal arts: A mathematician finds a structure and develops a vocabulary or theory for describing, exploring, and extending it further. Study in mathematics engages students in the search and in the articulation of the consequences. The study of mathematics requires both creativity and rigorous, logical thinking. Computer science is a discipline involving the analysis, design, implementation, and maintenance of computer systems; it is a key component of a modern education.

THE PROGRAM

The mission of the mathematics and computer science department is to provide an opportunity for all students to gain computational dexterity, to understand the value of mathematics as a human and social endeavor, and to develop the power of mathematical reasoning, while promoting the rigorous reasoning skills that allow students to investigate the interplay between the abstract and the concrete. The mission of the department with respect to computer science is to provide basic instruction in end-user skills for all students and in-depth instruction in theory and applications for computer science majors.

THE MAJOR

Mathematics courses are designed to meet two goals: (1) to introduce some of the most influential ideas and techniques in mathematics; and (2) to develop problem-solving ability by teaching students to combine creative mathematical searching with rigorous reasoning. The computer science program includes programming and software design, algorithms, system architectures, operating systems, language theory, databases, and online information systems design. Computer science courses are designed to prepare students for a lifetime of learning that will enable them to move beyond current technology to meet the challenges of the future.

THE COURSES

Classes at Virginia Wesleyan are small and interactive. Some of the courses within the mathematics and computer science program include: Modern Geometrics, Multivariable Calculus, Algebraic Structures, Number Theory, and Foundations of Logic and Proof.

INTERNSHIPS/UNDERGRADUATE RESEARCH

Independent or guided research projects are encouraged and pursued by many students in these programs. Students are offered the opportunity to conduct original research in an area of interest. Students work closely with one or more members of the natural science faculty to develop and conduct a research project, and then present their findings during the semester's undergraduate research symposium or at PORT day. Students are also encouraged to present their findings at a conference. Qualified students assist mathematics instructors in the classroom. Enrollment as a teaching assistant is by invitation of the MATH/CS department. Although the course is required for students seeking certification in secondary education, enrollment is not limited to such students.

BEYOND THE CLASSROOM

Career options in mathematics include actuary, operations research, cryptanalyst, cost estimator, national security analyst, statistician, and education.Career options in computer science include software developer, programmer, system analyst, computer administrator, and systems consultant.

CONTACT INFORMATION

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