Why Study Mathematics?

You need to. Mathematics continues to play a central role in engineering and the physical sciences as the appropriate language to describe natural phenomena, and modern computer science could not exist without its theoretical (and immensely practical) mathematical underpinnings. Mathematics has become an indispensable tool in the natural and social sciences, not just to understand data but also to construct predictive models.

You want to. While immensely useful when applied to the problems of other disciplines, the study of mathematics can be a satisfying end in itself. It possesses all the excitement of experimentation and discovery that is so attractive in the other sciences, with the added feature of completely objective proof. Beauty can be found everywhere in mathematics: from an unexpected and clever twist in the solution to an elementary problem to the construction of an abstract theory explaining seemingly unfathomable complexity.

It's good for you. There are good reasons why mathematics is one of the main pillars of the liberal arts. Its study is not merely the learning of a collection of quantitative techniques. The critical thinking skills used in solving (and explaining the solution of) even the simplest math problem practice organization, deductive reasoning, and clarity of thought and expression. Attacking a large and/or complicated problem by breaking it down into a coherent collection of smaller problems is standard practice in mathematics, and strategies for doing this in mathematics can be applied to many non-mathematical situations.

Majoring and Minoring in Mathematics

The SMC Mathematics Department has two tracks to a B.S. in mathematics. In the "traditional" track students are exposed to a broad spectrum of required foundational courses along with a selection of elective courses to give depth of study. Our "interdisciplinary" track allows students to design a program still centered around foundational and elective courses in mathematics, but including a coherent selection of courses in which mathematics is used or can be applied. Both tracks offer opportunities for independent research projects.

A minor in mathematics consists of the Calculus sequence, Linear Algebra, and two further courses of the student's choosing. Students who major in Engineering, Computer Science, or one of the Physical Sciences may be very close to having a math minor just by completing their major requirements. There are very good reasons for students in Biology, Business, or Economics to consider the math minor. But we have also had minors from English, Fine Arts, and Philosophy. The best reason to major or minor in math is because you enjoy doing math.

Find Out More

You can access the mathematics degree requirements through our online catalogue, where you'll find our program and course descriptions. A more detailed look can be found at the SMC math department site at **http://www.smcvt.edu/academics/mathematics/.** Ask for a copy of our handbook *Mathematics at Saint Michael's* or our student contract *Majoring in Mathematics* from the department chair or any member of the department

There are a number of web sites which specialize in mathematics. Among these are the American Mathematical Society (**http://www.ams.org/**); the Mathematical Association of America (**http://www.maa.org/**); and the Society for Industrial and Applied Mathematics (**http://www.siam.org**). If you are interested in actuarial science you might want to visit the Society of Actuaries' web site (**http://www.soa.org**) ; if you want to find out more about statistics as a profession, take a look at the American Statistical Association's web site (**http://www.amstat.org**); and if you are interested in teaching mathematics in the schools, check out the website of the National Council of Teachers of Mathematics (**http://www.NCTM.org**). All these web sites have pages devoted to careers in the field. You can find information about summer math programs through the AMS REU site at **http://www.ams.org/employment/reu.html**.