

Modern Mythologies in Mathematics

You tell people that you are taking math classes at SFU, and they say, “You study math, you must know a lot about ...” But even after having succeeded in all of the lower-division courses, calculus and linear algebra, many students are not aware about how this math actually impacts the world around us.

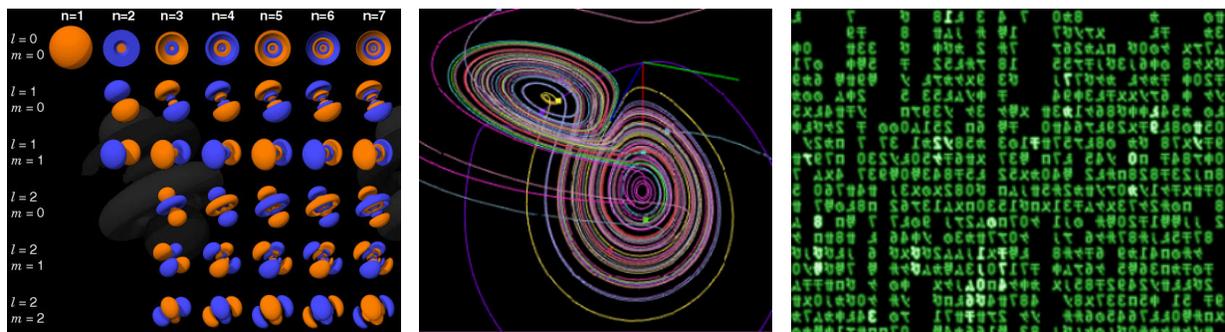
But modern life really does rely on technology, and hence, the mathematics that is the quantitative foundation that makes it all work so amazingly. For example, chaos theory is often used to explain the complexity of weather forecasting; Fourier theory forms the basis for modern signal processing; and Google was born from the largest linear algebra problem ever conceived.

This course builds from two popular books about math in the real world, *In Pursuit of the Unknown: 17 Equations that Changed the World*, by Ian Stewart and *9 Algorithms that Changed the Future: the Ingenious Ideas that Drive Today’s Computers*, by John MacCormick. But we will dive deeper, and experience in more detail how our knowledge of the calculus and linear algebra fits into these popularized narratives.

So if you enjoy learning new mathematics and the stories that make them part of our everyday lives, think Math 302.

Course prerequisites: Math 251 (Calc III) and Math 232/240 (Linear Algebra). Some elementary computing experience (Maple and Matlab) advantageous.

Further information & updates: www.math.sfu.ca/~muraki



These images are visual representations of three themes in the popular books by Stewart and MacCormick. Which three of the following do you think these represent: data compression, relativity, information theory, chaos, quantum mechanics, and error-correcting codes?