# What is Theoretical Computer Science?

If you have a passion for computers and consider yourself a math geek, you may be interested to learn about [theoretical computer science](http://www.dmtcs.org/dmtcs-ojs/index.php/dmtcs), which is its own form of study that combines concepts from both computer science and mathematics. This subset looks at the abstract mathematical concepts involved in computing and is the genesis of the theory of computation. While this branch of science can be a bit complex, it’s likely fascinating to those who are interested in the ways in which technology, math and science intersect. Let’s take a look at the study more closely.

# Components of Computer Science Theory

This field is quite broad and is made up of concepts from an array of other disciplines. Some subjects that compose this theoretical framework include:

* Distributed computation
* Algorithms
* Cryptography
* Algebra
* Computational Number Theory
* Data Structures
* Quantum Computation
* Machine Learning
* Computational Biology

This list is hardly comprehensive. There are many more topics that intersect to make up this diverse field of study. Essentially, though, the theoretical side of computer science and the applied aspects all come together with regard to computing.