Combinatorics and Discrete Mathematics

Combinatorics is the study of finite or countable discrete structures and includes counting the structures of a given kind and size, deciding when certain criteria can be met, and constructing and analyzing objects meeting the criteria, finding "largest", "smallest", or "optimal" objects, and studying combinatorial structures arising in an algebraic context, or applying algebraic techniques to combinatorial problems. Discrete mathematics involves the study of mathematical structures that are fundamentally discrete rather than continuous. In contrast to real numbers that have the property of varying "smoothly", the objects studied in discrete mathematics do not vary smoothly in this way, but have distinct, separated values. Many of these topics are also addressed in the Probability Theory section of the Statistics library.

Supplemental Modules for Discrete Math
Book: Combinatorics and Graph Theory (Guichard)

- Book: Combinatorics Through Guided Discovery (Bogart)

- Book: A Spiral Workbook for Discrete Mathematics (Kwong)

- Book: Discrete Mathematics (Levin)
Book: Elementary Number Theory (Raji)

- Book: An Introduction to the Theory of Numbers (Moser)

Thumbnail: Rubik's Cube. (CC BY-SA 3.0 Unported; Booyabazooka).