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**Course B: Absorption method in combinatorics**

The absorption method is one of the most influential techniques in modern combinatorics. Over the past twenty years, it has led to many breakthroughs on problems about covering combinatorial structures such as the existence of designs, Hamilton cycles in hypergraphs and the  $N$ -queens problem. In this mini-course, we introduce the basic method and then take a closer look at some of its extensions.